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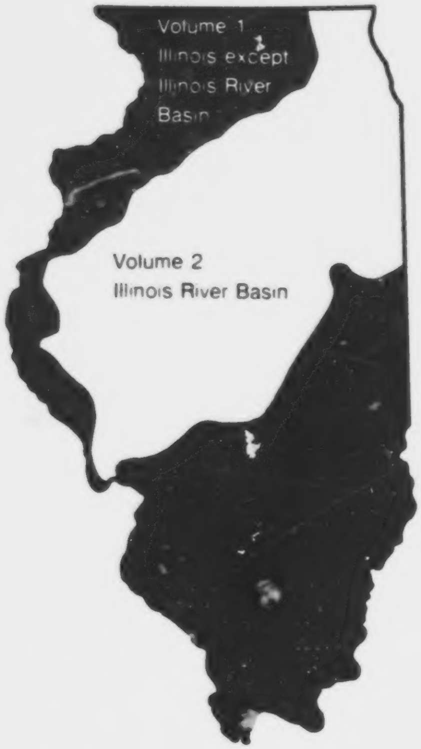
Water Resources Data Illinois

Water Year 1989

Volume 1. Illinois except Illinois River Basin



U.S. GEOLOGICAL SURVEY WATER DATA REPORT IL-89-1
Prepared in cooperation with the State of Illinois
and with other agencies

CALENDAR FOR WATER YEAR 1989

1988

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U.S. DEPARTMENT OF THE INTERIOR

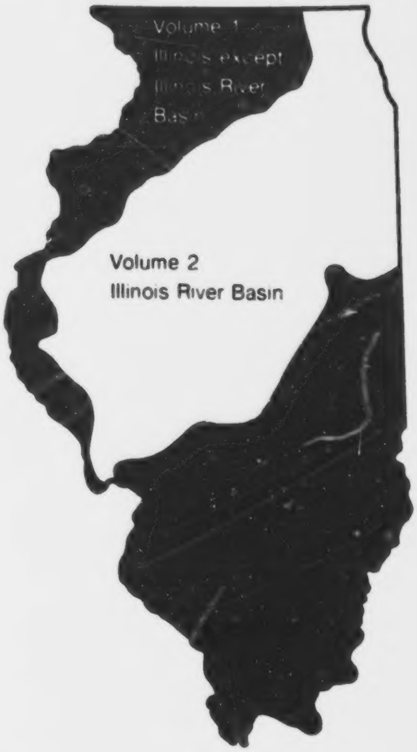
March 3, 1849

AUG. 26th 1818

Water Resources Data Illinois
Water Year 1989

Volume 1. Illinois except Illinois River Basin

by J.C. Maurer, J.M. Sterling, T.E. Richards, and P.D. Hayes


Volume 1 Illinois except Illinois River Basin
Volume 2 Illinois River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT IL-89-1
Prepared in cooperation with the State of Illinois
and with other agencies

DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Illinois write to:

District Chief
Water Resources Division
U.S. Geological Survey
102 East Main Street, 4th Floor
Urbana, Illinois 61801

1990

PREFACE

This volume of the annual hydrologic data report of Illinois is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Illinos are contained in two volumes:

Volume 1. Illinois except Illinois River Basin

Volume 2. Illinois River Basin

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

De Kalb Office	Mt. Vernon Office	Urbana Office
D. J. Hector	P. J. Draper	A. L. Bewsher
W. S. Morrow	N. R. Kaufman	M. L. Harris
S. M. Robinson	J. R. Norris	A. W. Nyberg
T. L. Wicker		A. D. Robl

Mary Garrelts updated and typed the text of the report and deserves special recognition for assembling data from the above offices, organizing tables into two volumes, preparing tables of contents and indexes, and preparing and editing camera copy.

This report was prepared in cooperation with the State of Illinois and with other agencies under the general supervision of Richard P. Novitzki, District Chief.

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The Water Resources Division of the U.S. Geological Survey, in cooperation with State, Federal, and other local governmental agencies, obtains a large amount of data pertaining to the water resources of Illinois each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State.

Water resources data for the 1989 water year for Illinois consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains (1) discharge for 71 streamflow-gaging stations and for 10 crest-stage, partial-record streamflow stations; (2) stage for 18 streamflow-gaging stations; (3) stage and contents for 3 lakes and reservoirs; and (4) water-quality records for 46 streamflow-gaging stations, 3 of which include sediment discharge, and for 30 ungaged stream sites.

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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State, Federal, and other local governmental agencies, obtains a large amount of data pertaining to the water resources of Illinois each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Illinois."

Water resources data for the 1989 water year for Illinois consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels of ground-water wells. This volume (Volume 1, Illinois except Illinois River basin) contains (1) discharge for 71 streamflow-gaging stations and for 10 crest-stage, partial-record streamflow stations; (2) stage for 18 streamflow-gaging stations; (3) stage and contents for 3 lakes and reservoirs; and (4) water-quality records for 46 streamflow-gaging stations, 3 of which include sediment discharge, and for 30 ungaged stream sites. Locations of these sites are shown in figures 1 and 2.

This series of annual reports for Illinois began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1965 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface water and ground water, and ground-water levels. Due to the large increase in water-resources data collected in Illinois, it was necessary to go to a two-volume format in 1978.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Illinois were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 3A, 4, and 5." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report IL-89-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (217) 398-5353.

COOPERATION

The U.S. Geological Survey and agencies of the State of Illinois have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

Illinois Department of Transportation, G. W. Baise, Secretary, through Division of Water Resources, D. R. Vonnahme, Director.

Illinois Environmental Protection Agency, B. P. Killian, Director, through Division of Water Pollution Control, James Park, Manager, and Division of Public Water Supply, Roger Selburg, Manager.

Illinois Department of Energy and Natural Resources, K. A. Witter, Director, through Water Survey Division, R. G. Semonin, Chief.

Bloomington and Normal Sanitary District, J. M. Callahan, Executive Director.

Forest Preserve District of Cook County, G. W. Dunne, President, Board of County Commissioners; A. L. Janura, General Superintendent, Forest Preserve.

Forest Preserve District of Du Page County, H. C. Johnson, Executive Director; R. A. Hill, Project Engineer.

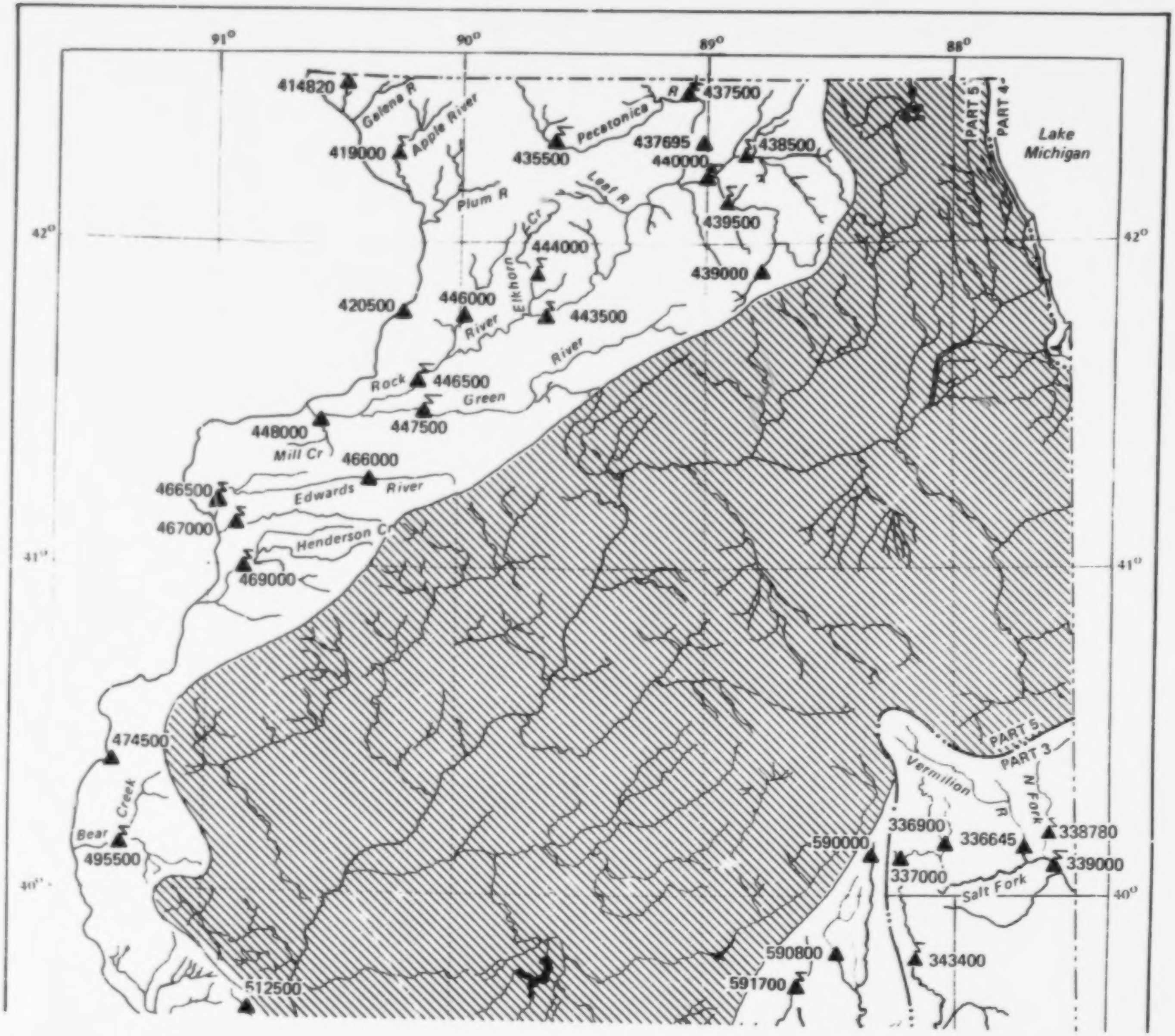
Du Page County Department of Environmental Concerns, J. T. Kruepfer, County Board Chairman.

Conservation District of Vermilion County, R. N. Pennock, Executive Director.

The Metropolitan Water Reclamation District of Greater Chicago, N. J. Melas, President; Cecil Lue-Hing, Director, Research and Development.

City of De Kalb, Ronald Naylor, Director, Public Works Department.

City of Decatur, W. B. Sands, Director, Public Works.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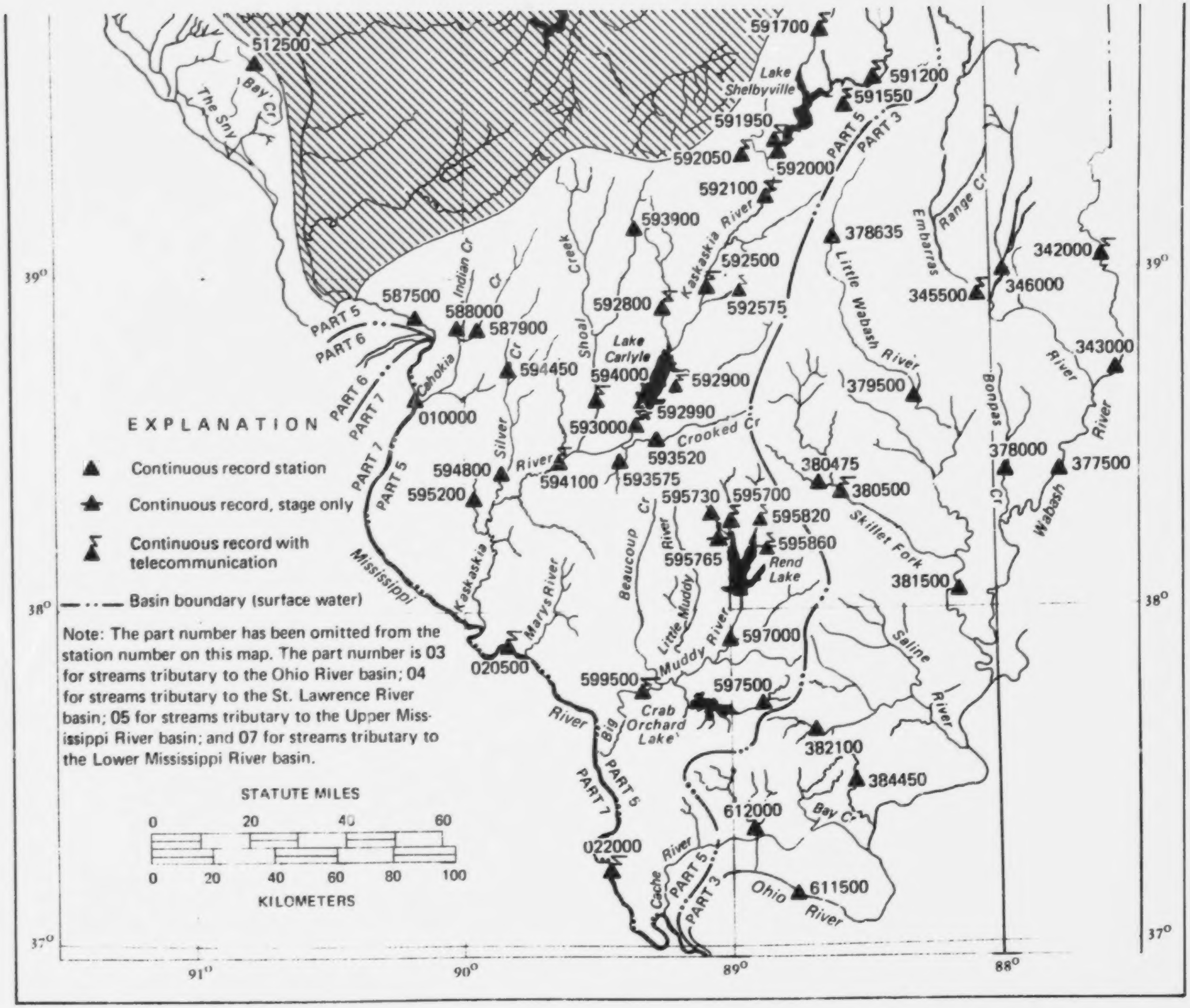
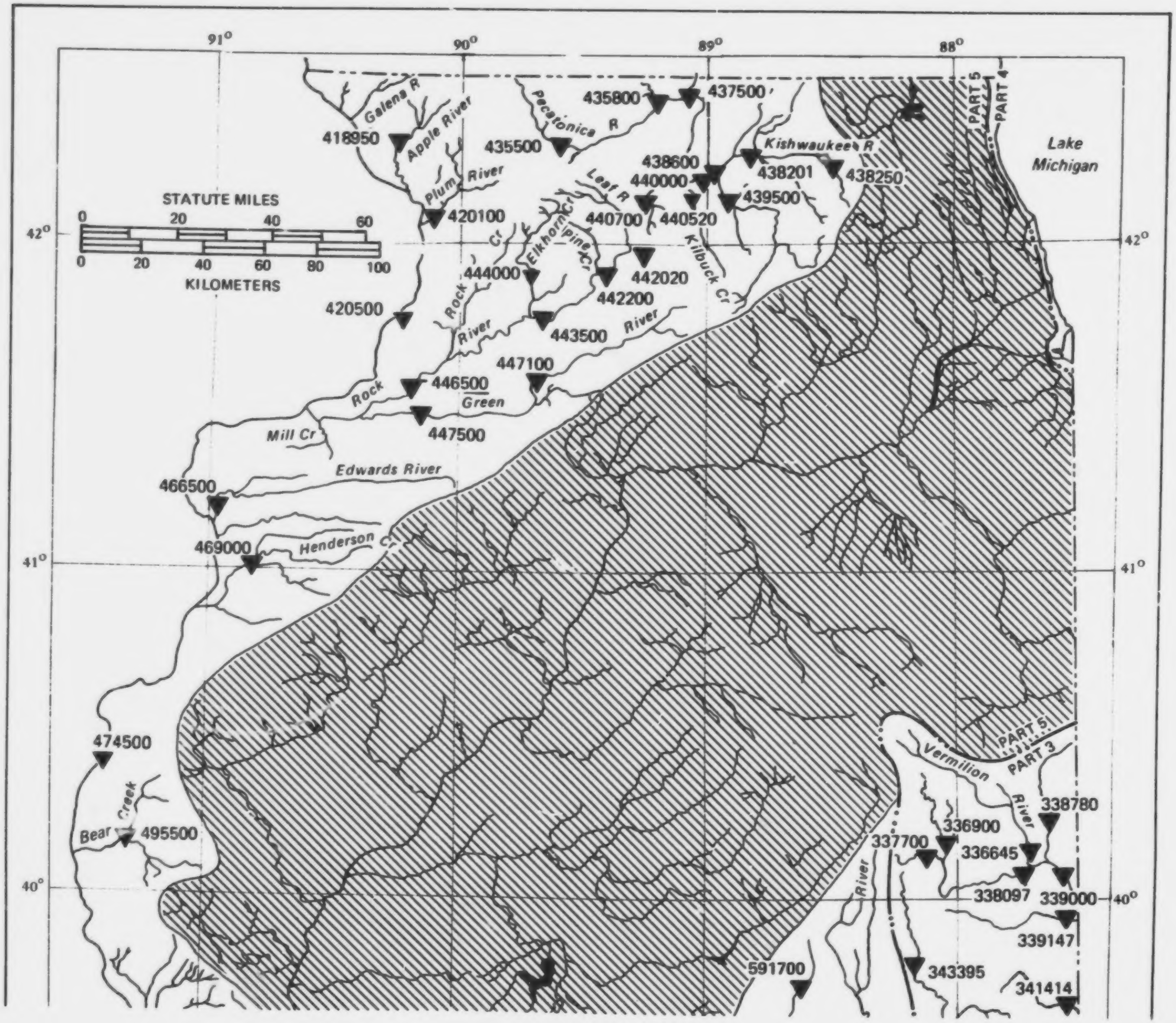


Note: The part number has been omitted from the station number on this map. The part number is 03 for streams tributary to the Ohio River basin; 04 for streams tributary to the St. Lawrence River basin; 05 for streams tributary to the Upper Mississippi River basin; and 07 for streams tributary to the Lower Mississippi River basin.

Figure 1. Map of Illinois showing location of active surface water gaging stations except in the Illinois River basin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Leaf R
Elkhorn Cr
Pine Cr
Kilbuck Cr
Rock Cr
Rock River
Green
Mill Cr
Edwards River
Henderson Cr
Bear Creek
Vermilion River
River
Lake Michigan
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PART 4
PART 3
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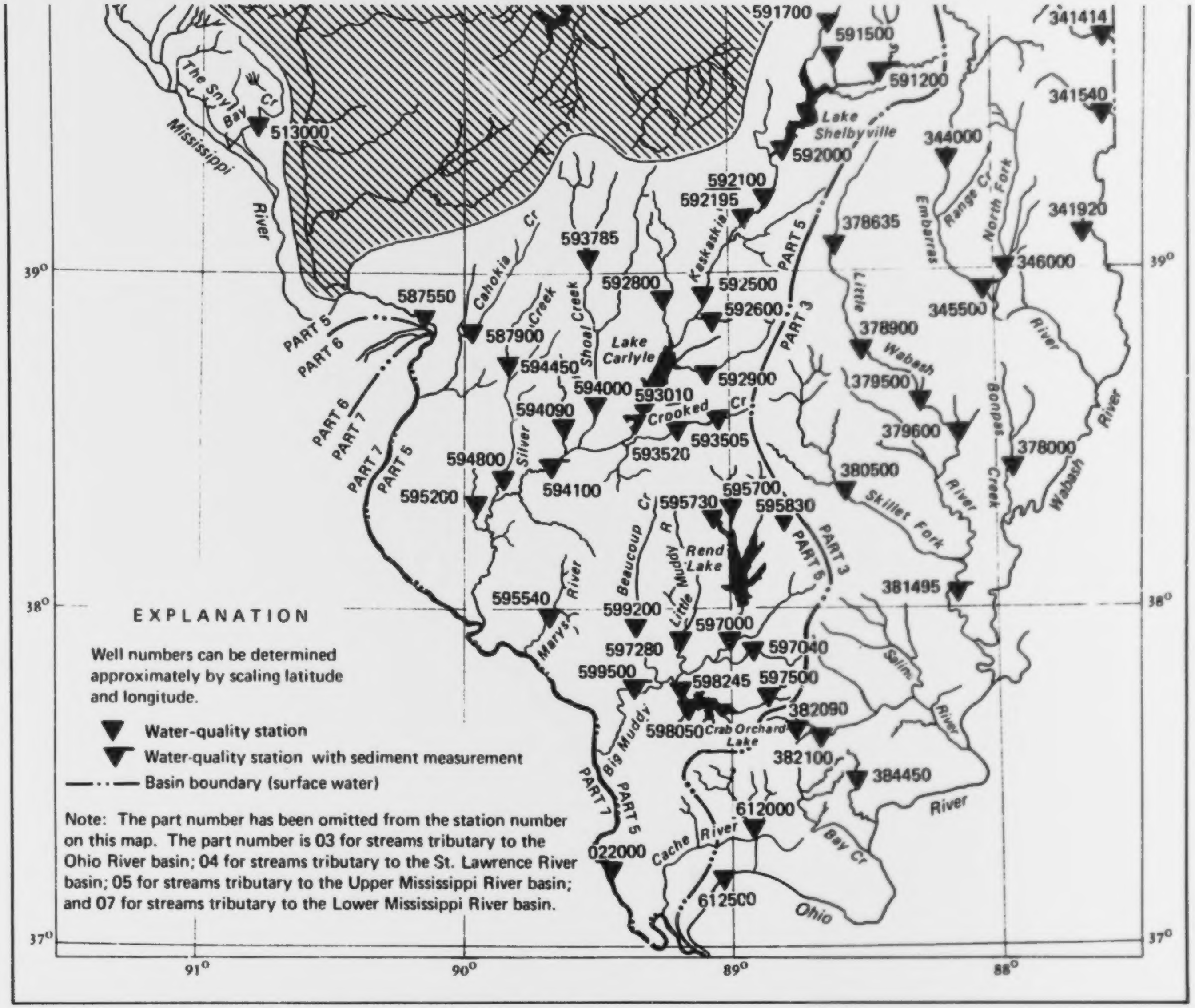

EXPLANATION

Well numbers can be determined approximately by scaling latitude and longitude.

▼ Water-quality station

▼ Water-quality station with sediment measurement

—·-·— Basin boundary (surface water)

Note: The part number has been omitted from the station number on this map. The part number is 03 for streams tributary to the Ohio River basin; 04 for streams tributary to the St. Lawrence River basin; 05 for streams tributary to the Upper Mississippi River basin; and 07 for streams tributary to the Lower Mississippi River basin.

Figure 2. Map of Illinois showing location of water-quality stations except in the Illinois River basin

City of Springfield, Jim Buckler, Manager, Water Division; L. Frasco, Chief Utility Engineer.

Assistance, by providing funds or services, was given by the U.S. Army Corps of Engineers in collecting records for 48 streamflow-gaging stations and 2 crest-stage gages.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow

Annual precipitation was below the long-term (1951-80) average for the third consecutive year. The long-term average precipitation in the State ranges from 36 inches in the north to 44 inches in the south. Total precipitation ranged from 73 percent of average in the central to 111 percent in both the east-southeast and the southeast (fig. 3). Monthly precipitation ranged from a low of less than 0.8 inch (45 percent of average) across the northeastern part of the State in January to 8.1 inches (287 percent of average) across the southeastern part in February. Statewide precipitation was above average in November, February, and September, and below average for the remaining months.

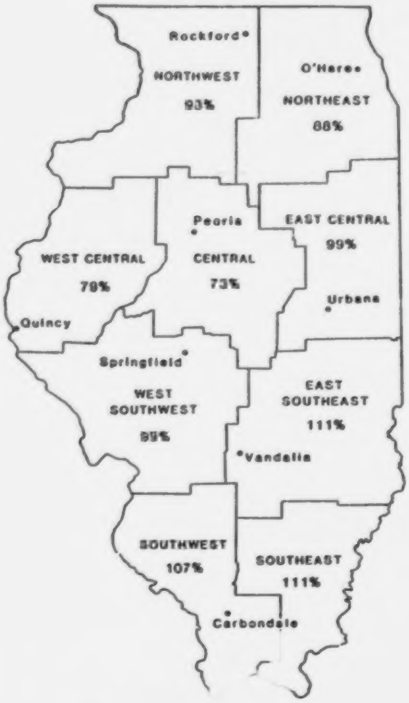

Figure 3.--Percentage of average annual precipitation.

During the 1989 water year, runoff was deficient in the northern and central parts of the State and excessive in the southern part. Runoff at the northern index station--Pecatonica River at Freeport (05435500)--was 67 percent of its median. At the central index station--Sangamon River at Monticello (05572000)--runoff was 69 percent of its median. At the southern index station--Skillet Fork at Wayne City (03380500)--runoff was 135 percent of its median. Figure 4 compares monthly and annual mean discharges (1989 water year) for the three index stations to the 30-year median (1951-80). Runoff at the northern index station was deficient from April through August and normal for the remaining months. At the central index station, runoff was excessive in May and September and deficient in October, February, July and August. Runoff at the southern index station was excessive from February through April and normal for the remaining months.

Surface-Water Quality

The quality of many streams in Illinois has been degraded by numerous point and nonpoint sources, including industrial and municipal discharges, hazardous-waste disposal sites, animal feedlots, highway deicing salts, coal-mine wastes, and agricultural lands. These sources contribute the nutrients, chemicals, and suspended sediment that affect the quality of surface water in the State.

Iron and manganese concentrations also are elevated in most of the State's surface waters. The highest iron and manganese concentrations are found in southern and west-central Illinois, where many streams receive drainage from areas that are being surface mined for coal. Sulfate concentrations and specific conductances

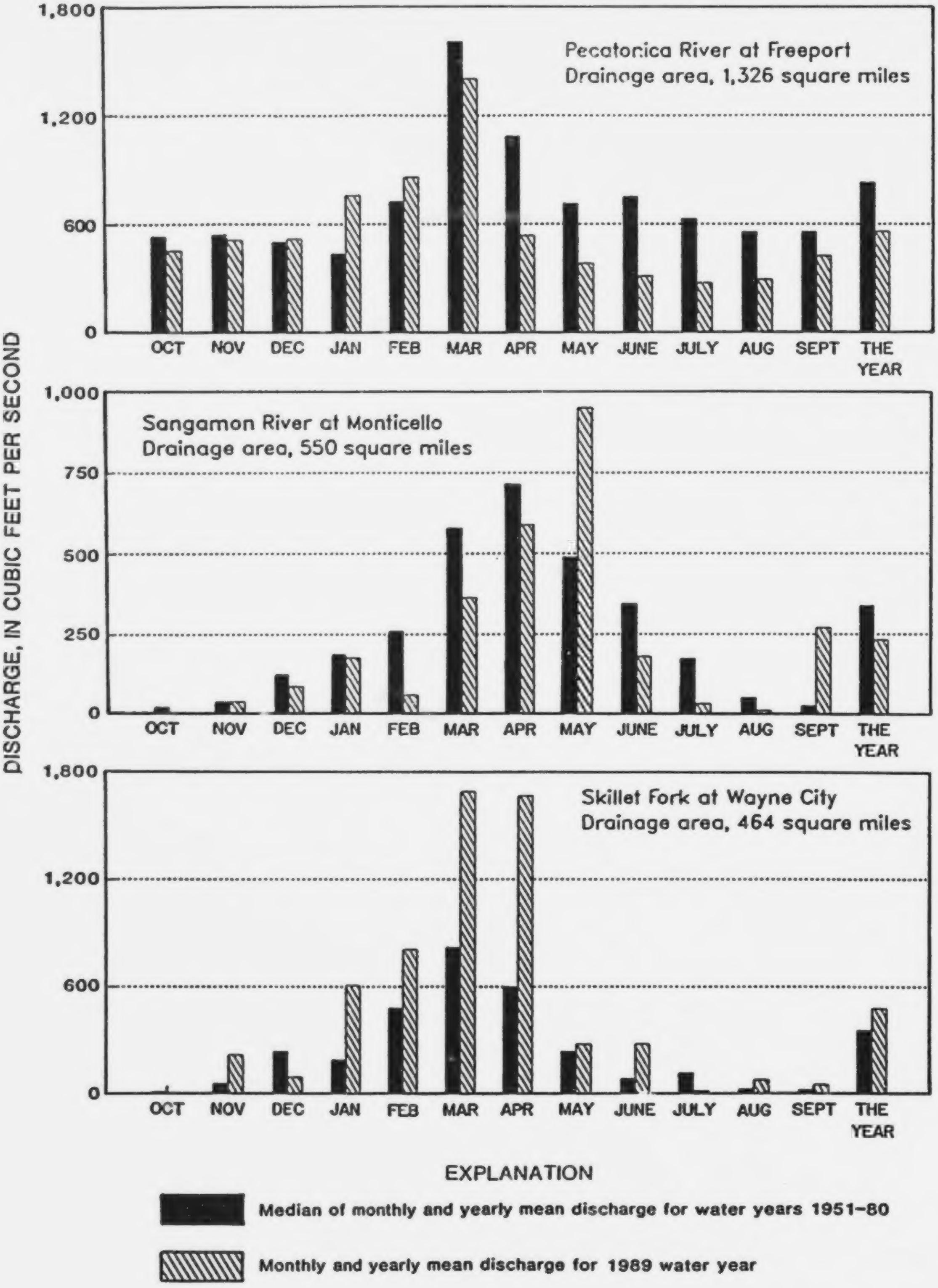

Figure 4.--Discharge during 1989 water year compared with median discharge for water years 1951-80 for three representative gaging stations.

also are higher in these areas. The acidic mine drainage is neutralized by the carbonate rocks and glacial materials through which it flows; near-neutral pH's prevail in most of the State's surface waters that drain mined areas.

Some degree of erosion occurs statewide and affects croplands, streams, lakes, and reservoirs. Erosion during the past 100 years has reduced the amount of topsoil in many parts of Illinois by more than one-third (Illinois State Water Plan Task Force, 1982, p. 19). Of the estimated 181 million tons of soil eroded annually, about 138 million tons (76 percent) is from croplands. Sedimentation has affected aquatic organisms and their habitats, navigability of channels, and quality of water supplies. Reservoir storage throughout the State decreases about 8,000 acre-feet annually as a result of sedimentation (Illinois State Water Plan Task Force, 1982, p. 20).

Table 1 lists suspended-sediment and water-discharge data for the indicated periods of record at various locations in the State.

Table 1.--Average annual suspended-sediment yield and stream runoff

[(T/mi^2)/yr, tons per square mile per year; cfsm, cubic feet per second per square mile]

Station number	Station name	Period of sediment record	Averages for period of sediment record		1989 water year	
			Yield [(T/mi^2)/yr]	Runoff (cfsm)	Yield [(T/mi^2)/yr]	Runoff (cfsm)
05586100	Illinois River at Valley City	February 1980 to present	232	0.97	67.5	0.46
05591200	Kaskaskia River at Cooks Mills	January 1979 to present	78.3	.89	99.8	.73
05594100	Kaskaskia River near Venedy Station	May 1980 to present	150	.94	97.9	.57
05599500	Big Muddy River at Murphysboro	May 1980 to present	134	1.12	197	1.16

SPECIAL NETWORKS

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in national or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are to (1) obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, and analysis, (2) report the data so that they and other programs may be used for description of the areal variability of water quality in the Nation's rivers, (3) detect changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

National Water-Quality Assessment (NAWQA) Program is a program designed to obtain water-quality information that would provide an improved scientific basis for evaluating the effectiveness of water-quality management programs and for predicting the likely effects of contemplated changes on land and water-management practices. The goals of the NAWQA program are to (1) provide a nationally consistent description of current water-quality conditions, (2) define long-term trends in water quality, and (3) identify, describe, and explain, as possible, the major factors that affect observed conditions and trends in water quality.

In fiscal year 1986, the U.S. Geological Survey began a National Water-Quality Assessment Pilot Program to test and refine assessment concepts and approaches, and to evaluate the potential use and cost of a fully implemented program. Four surface-water and three ground-water pilot projects were selected to test and refine the assessment concepts. One of the pilot project study areas selected was the upper Illinois River basin in Illinois, Indiana, and Wisconsin.

The four major work elements of the upper Illinois River basin study are (1) an analysis of existing information, (2) fixed-station sampling, (3) synoptic sampling, and (4) intensive reach studies. Presently, the analysis of existing information is still in progress. Fixed-station sampling began in April 1987 and will continue to operate until September 1990. The fixed-station sampling program is operated in cooperation with the Illinois Environmental Protection Agency. The fixed-station sampling program consists of eight stations that are sampled on a monthly basis (table 2). Synoptic sampling has been conducted for trace metals in bottom material and for dissolved oxygen, bacteria, nutrients, and trace organic compounds in water. To date, no intensive reach studies have been conducted.

Table 2.--Fixed-station sampling sites used in the upper Illinois River basin pilot National Water-Quality Assessment project

Station number	Station name
05520500	Kankakee River at Momence, Ill.
05526000	Iroquois River near Chebanse, Ill.
05532500	Des Plaines River at Riverside, Ill.
05536995	Chicago Sanitary and Ship Canal at Romeoville, Ill.
05540500	Du Page River at Shorewood, Ill.
05543500	Illinois River at Marseilles, Ill.
05550000	Fox River at Algonquin, Ill.
05552500	Fox River at Dayton, Ill.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1989 water year that began October 1, 1988, and ended September 30, 1989. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface water, and ground-water-level data. The locations of stations and wells where the data were collected are shown in figures 1 and 2. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report, whether stream site or well, is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station, such as 05527500, which appears just to the left of the station name, includes the two-digit Part number "05" plus the six-digit downstream-order number "527500." The Part number designates the major river basin; for example, part "05" is the Upper Mississippi River basin.

Latitude-Longitude System

The identification numbers for wells are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number, and has no locational significance. In the rare instance where the initial determination of latitude and longitude is found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description (fig. 5).

Records of Stage and Water Discharge

Records of stage and water discharge may be completed or partial. Complete records of discharge are those obtained by using discrete measurements and a continuous stage-recording device. Data from these may be used to compute either instantaneous or mean daily discharges for any instant or period of time within the period of record. Similarly, complete records of lake or reservoir content are those for which stage or content may be

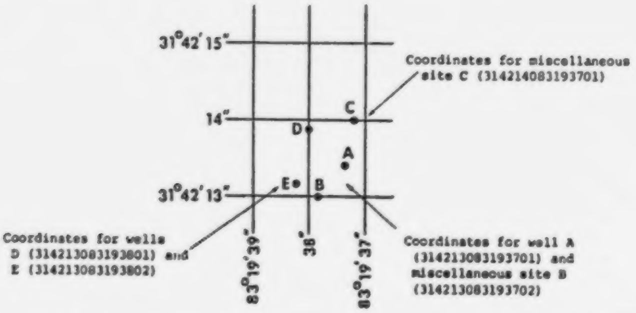
31°42'15"
Coordinates for miscellaneous site C (314214083193701)
C
14"
D
A
31°42'13"
E
B
Coordinates for wells D (314213083193801) and E (314213083193802)
83°19'39"
38"
83°19'37"
Coordinates for well A (314213083193701) and miscellaneous site B (314213083193702)

Figure 5.--System for numbering wells (latitude and longitude).

computed or estimated with reasonable accuracy for any instant or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges or end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements, without the use of a continuous stage-recording device, and pertain to only one or a few flow characteristics. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but are presented separately in this report. Locations of all complete-record stations for which data are given in this report are shown in figure 1.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with digital recorders that punch stage values on paper tapes at selected time intervals or with analog recorders that trace continuous graphs of stage. Measurements of discharge are made with current meters and acoustical flowmeters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements or peak discharge, such as slope-area or contracted-opening measurements, and computations of flow over dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables that define the relationship of stage and content. The application of stage to stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Computations may become increasingly in error as time since the last survey elapses. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when a recorder stops or otherwise malfunctions, when intakes become plugged, when a float freezes in a well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station consist of two parts, the manuscript or station description and the data table for the current water year. Under its various headings, the manuscript provides descriptive information on station location, period of record, average discharge, historical extremes, record accuracy, and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. The following describe information presented under the corresponding headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council, and are published in "River Mileages and Drainage Areas for Illinois Streams."

DRAINAGE AREA.--Drainage areas are determined using the most accurate maps available. Because the types of maps available vary from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent to records from the present station.

REVISED RECORDS.--Occasionally, because of new information, published records are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record for water-discharge stations will either be identified by date in this paragraph or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a digital or graphic recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages that occurred during the water year and were greater than a selected base discharge are presented under this heading. Peaks greater than the base discharge, excluding the highest, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, revision of the record for a discontinued gaging station may be needed. For these stations, there would be no station manuscript published, and therefore, no "Revised Records" entry to document the revision. Users of data for these stations may wish to contact the District office to determine if the published records have been revised since the station was discontinued. If the data were obtained by computer retrieval, the data would be current; published revisions are always preceded by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations, monthly and (or) yearly observed discharges are either adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Tables of data collected at partial-record stations follow those for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements; and (2) the accuracy of measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true value; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules also apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations may not reflect natural runoff because of the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations, figures of cubic feet per second per square mile and of runoff, in inches, are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Records Available

Records of daily diversion of water from Lake Michigan are collected by the Illinois Department of Transportation, Division of Water Resources. The records of daily diversion of water from Lake Michigan may be obtained from the Illinois Department of Transportation, Division of Water Resources, 310 S. Michigan Avenue, Room 1606, Chicago, IL 60604 (telephone number 312-793-3123).

Records of discharge, not published by the Geological Survey, are collected at several sites in Illinois by the U.S. Army Corps of Engineers. The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Illinois District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

In March 1989, the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a nationwide median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values in this report have not been corrected for this bias. Analyses done at the National Water-Quality Laboratory have a value of 80020 for parameter code 00028 (analyzing agency).

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in a river basin. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 2.

Arrangement of Records

Water-quality records collected at a surface-water, daily-record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water, daily-record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is that the data obtained represent the ambient quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on-site when the samples are taken. To assure that measurements made in the laboratory represent field conditions, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on p. 23 and 24 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

One sample can define adequately the water quality at a given time if the mixture of constituents throughout the stream cross section is homogeneous. However, the concentrations of constituents at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors that must be evaluated by the collector.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the USGS District office whose address is given on the back of the title page of this report.

Water Temperatures

Water temperatures are measured at all of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. Large streams have small diel temperature changes; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to compute the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment discharges for other periods of similar water discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Denver, Colo., or the Illinois Environmental Protection Agency's laboratories in Champaign and Chicago, Ill. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; and Book 5, Chap. A1, A3, and A4. The following codes identify the agency or office having the principal responsibility for collecting and/or analyzing water samples.

Agency	Agency Code
U.S. Geological Survey (general)	1028
Illinois Environmental Protection Agency	17002
Illinois State Water Survey	17003
U.S. Geological Survey, Denver Laboratory	80020
U.S. Geological Survey, Illinois District	81700

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily, are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature recorder, pumping sediment sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)

Records of Ground-Water Levels

Data Collection and Computation

Measurements of water levels are made under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric identifier, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. The method and frequency of measurement is given in the station description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) to which the well is open.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base, and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels for the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. Daily maximum water levels are reported for wells equipped with a recording device. The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and REtrieval System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. A table for converting inch-pound units to the International System of Units (SI) is on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C ± 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as numbers of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warmblooded animals. They are often used as indicators of the sanitary quality of water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C ± 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in the intestine of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, coccal bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C ± 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as numbers of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue of zooplankton and periphyton present after drying in an oven at 105 °C until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water, and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meter per second.

Cubic foot per second-day (cfs-day) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to that material in a representative water sample which passes through a 0.45-μm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, bicarbonate is converted to carbon dioxide, water, and carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the conversion.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions with those observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (μg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per liter (UG/L, μg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of solvent. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents the mass of solute per unit volume (liter) of solvent. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in national or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are to (1) obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, and analysis, (2) report the data so that they and other programs may be used for description of the areal variability of water quality in the Nation's rivers, (3) detect changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) provide a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a five-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are, for the the most part, the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classifications used in this report agree with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation
Silt..........	.004 - .062	Sedimentation
Sand..........	.062 - 2.0	Sedimentation or sieve
Gravel........	2.0 - 64.0	Sieve

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population in terms of types, numbers, mass, or volume.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg $C/(m^2 \cdot time)$] for periphyton and macrophytes and [mg $C/(m^3 \cdot time)$] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg $O_2/(m^2 \cdot time)$] for periphyton and macrophytes and [mg $O_2/(m^3 \cdot time)$] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrologic event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7 Q_{10}) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in a solvent.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used as an indicator of the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water, per unit of time (discharge), flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton.

Surface area of a lake is that area, in acres, outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter. In localities not covered by topographic maps, the areas are computed from the best maps available. All areas shown are those corresponding to the stage existing at the time when the planimetered map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with the material retained on a 0.45-μm filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-μm membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble sustances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) *dissolved* and (2) *total recoverable* concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-μm membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) *dissolved* and (2) *total* concentrations of the constituent.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom	Animal
Phylum	Arthropoda
Class	Insects
Order	Ephemeroptera
Family	Ephemeridae
Genus	Hexagenia
Species	Hexagenia limbata

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1989, is called the "1989 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

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The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

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2-D1. Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.

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SURFACE-WATER RECORDS

REMARKS CODES.--The following remark codes may appear with the water-quality data in this section:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptable range (non-ideal colony count)

HYDROLOGIC-DATA STATION RECORDS

OHIO RIVER BASIN

WABASH RIVER BASIN

03336645 MIDDLE FORK VERMILION RIVER ABOVE OAKWOOD, IL

LOCATION.--Lat 40°08'12", long 87°44'45", in NE1/4SW1/4 sec.5, T.19 N., R.12 W., Vermilion County, Hydrologic Unit 05120109, on right bank 150 ft upstream from Kickapoo State Park Road bridge, 1.0 mi upstream from Interstate Highway 74 bridge, 2.0 mi northeast of Oakwood, and at mile 31.7.

DRAINAGE AREA.--432 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to current year. Gage-height records for January 1972 to Nov. 8, 1978, available in files of Illinois Division of Water Resources.
GAGE.--Water-stage recorder. Datum of gage is 544.42 ft above National Geodetic Vertical Datum of 1929 (levels by Illinois Division of Water Resources).
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.
AVERAGE DISCHARGE.--11 years, 406 ft^3/s, 12.76 in/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s, Feb. 21, 1982, gage height, 15.79 ft; minimum daily, 4.5 ft^3/s, Nov. 20, 1980.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	0945	*4,400	*8.30	No other peak greater than base discharge.			

Minimum daily discharge, 5.9 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	15	83	282	207	e58	160	421	479	89	20	104
2	16	14	72	207	179	e68	166	332	615	76	19	223
3	13	14	64	178	154	e110	1660	280	510	72	20	112
4	10	17	e60	162	128	724	2370	245	519	70	17	67
5	8.8	73	e54	132	82	1260	1590	235	410	65	17	46
6	9.6	64	e50	192	e52	818	925	258	347	59	16	37
7	8.8	41	e46	370	e56	437	696	218	309	51	14	31
8	7.8	36	e43	1330	e60	351	615	189	281	45	14	34
9	7.4	32	e41	954	e56	316	791	196	258	40	13	239
10	6.3	67	40	542	e54	262	669	201	236	35	12	195
11	5.9	183	58	364	e50	288	509	191	209	32	12	265
12	6.0	123	61	e310	e48	335	433	176	200	29	12	153
13	6.1	105	52	e270	e46	320	375	176	199	27	11	95
14	6.1	129	50	e240	e45	302	324	169	192	25	11	111
15	6.5	96	46	e210	e45	295	312	159	172	24	11	169
16	16	598	55	e190	e47	246	279	159	162	22	11	127
17	18	641	54	e170	e50	193	254	157	155	21	11	116
18	17	276	50	e160	e52	371	241	133	148	20	11	87
19	16	173	49	e155	e54	705	231	155	145	20	12	66
20	37	230	41	e150	e60	406	215	607	138	110	12	51
21	33	995	39	e143	e58	632	203	924	131	299	12	41
22	27	566	42	e138	e56	447	198	581	122	190	15	37
23	27	333	886	e132	e54	342	191	446	116	125	43	34
24	22	236	1160	e130	e52	297	184	381	123	80	47	29
25	19	185	711	139	e50	267	176	621	115	57	23	27
26	17	156	418	225	e48	234	175	3970	102	42	17	25
27	16	143	377	419	e50	210	188	3160	98	33	16	23
28	16	124	897	307	e53	202	536	2800	169	26	17	22
29	16	105	655	258	---	196	991	1190	149	22	19	21
30	15	91	435	242	---	190	633	780	110	21	21	20
31	16	---	365	225	---	177	---	589	---	21	20	---
TOTAL	458.3	5861	7054	8926	1946	11059	16290	20099	6919	1848	526	2607
MEAN	14.8	195	228	288	69.5	357	543	648	231	59.6	17.0	86.9
MAX	37	995	1160	1330	207	1260	2370	3970	615	299	47	265
MIN	5.9	14	39	130	45	58	160	133	98	20	11	20
CFSM	.03	.45	.53	.67	.16	.83	1.26	1.50	.53	.14	.04	.20
IN.	.04	.50	.61	.77	.17	.95	1.40	1.73	.60	.16	.05	.22

CAL YR 1988 TOTAL 66338.7 MEAN 181 MAX 2300 MIN 5.9 CFSM .42 IN. 5.71
WTR YR 1989 TOTAL 83593.3 MEAN 229 MAX 3970 MIN 5.9 CFSM .53 IN. 7.20

e Estimated

03336645 MIDDLE FORK VERMILION RIVER ABOVE OAKWOOD, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
NOV												
10...	1100	17002	17002	44	759	7.70	9.0	16	15.1	20	200	350
DEC												
14...	1000	17002	17002	52	840	8.30	1.0	4.6	15.0	<1	30	430
JAN												
19...	1000	17002	17002	155	683	8.30	2.0	2.6	15.0	4	70	340
FEB												
23...	0930	17002	17002	54	715	8.40	0.0	0.50	16.3	6	<10	360
APR												
13...	1000	17002	17002	382	657	8.10	7.0	6.2	11.7	6	<10	320
MAY												
10...	0930	17002	17002	201	670	--	--	4.6	--	6	190	340
JUN												
20...	1100	17002	17002	140	708	8.00	22.0	0.20	9.9	12	120	370
AUG												
02...	1000	17002	17002	19	709	8.00	24.5	6.5	8.1	6	50	330
SEP												
14...	1000	17002	17002	95	502	7.90	16.0	29	9.2	18	100	250

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV												
10...	180	86	83	36	35	27	27	4.9	4.3	173	200	25
DEC												
14...	180	100	100	44	44	24	24	2.4	2.4	248	160	33
JAN												
19...	140	79	78	35	35	11	11	0.9	0.86	195	85	29
FEB												
23...	160	82	81	38	38	17	17	1.4	1.4	201	100	34
APR												
13...	140	74	74	34	33	8.0	8.0	1.6	1.4	182	67	26
MAY												
10...	140	79	77	36	36	10	10	1.7	1.5	202	80	26
JUN												
20...	160	83	82	40	39	13	13	1.1	1.1	206	90	25
AUG												
02...	160	71	70	39	38	22	22	2.4	2.5	175	160	24
SEP												
14...	84	60	57	26	25	11	11	3.2	3.4	162	61	18

03336645 MIDDLE FORK VERMILION RIVER ABOVE OAKWOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)
NOV 10...	475	61	5	2.10	<0.100	<0.001	0.80	2.9	0.080	0.020	2400
DEC 14...	518	3	1	7.70	<0.100	<0.002	0.40	8.1	0.040	0.030	<50
JAN 19...	356	8	2	13.0	<0.100	<0.002	0.40	13	0.040	0.030	200
FEB 23...	395	7	1	9.50	<0.100	<0.002	0.30	9.8	0.040	0.020	130
APR 13...	319	26	4	16.0	<0.100	<0.002	<0.10	--	0.050	0.030	900
MAY 10...	352	12	3	12.0	<0.100	--	<0.10	--	0.050	0.030	480
JUN 20...	375	29	5	11.0	<0.100	<0.005	0.60	12	0.030	0.010	1500
AUG 02...	423	13	2	0.880	<0.100	<0.005	0.50	1.4	0.020	<0.010	350
SEP 14...	273	73	8	3.80	<0.100	<0.002	0.60	4.4	0.140	0.100	2300

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)
NOV 10...	<50	50	37	<0.5	<0.5	960	940	<3	<3	<5	<5
DEC 14...	<50	40	45	<0.5	<0.5	560	550	<3	<3	<5	<5
JAN 19...	70	40	40	<0.5	<0.5	170	170	<3	<3	<5	<5
FEB 23...	50	30	27	<0.5	<0.5	260	260	<3	<3	<5	<5
APR 13...	280	40	38	<0.5	<0.5	90	90	<3	<3	<5	<5
MAY 10...	150	40	37	<0.5	<0.5	160	160	--	--	6	7
JUN 20...	1100	50	50	<0.5	<0.5	250	250	<3	<3	6	5
AUG 02...	60	50	46	<0.5	<0.5	820	--	<3	<3	<5	<5
SEP 14...	<50	60	40	<0.5	<0.5	290	280	<3	<3	<5	<5

03336645 MIDDLE FORK VERMILION RIVER ABOVE OAKWOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV 10...	<5	<5	<5	<5	3200	50	<5	<5	110	23	<0.05
DEC 14...	<5	<5	<5	--	90	<50	<5	<5	49	46	<0.05
JAN 19...	<5	<5	<5	<5	220	<50	<5	<5	27	17	<0.05
FEB 23...	<5	<5	<5	<5	160	<50	<5	<5	37	30	<0.05
APR 13...	<5	<5	6	<5	880	58	<5	<5	33	10	<0.05
MAY 10...	<5	<5	<5	<5	450	<50	<5	<5	24	8	<0.05
JUN 20...	<5	<5	<5	<5	610	<50	<5	<5	22	<5	<0.05
AUG 02...	<5	<5	<5	<5	410	<50	<5	<5	38	16	<0.05
SEP 14...	<5	<5	<5	<5	3200	<50	<5	<5	110	9	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 10...	6	<5	<3	<3.0	260	260	8	<5	<100	<100	8.4
DEC 14...	<5	<5	<3	<3.0	270	270	<5	<5	<50	<50	4.4
JAN 19...	<5	<5	<3	<3.0	160	160	<5	<5	<100	<100	3.3
FEB 23...	6	7	<3	<3.0	170	170	<5	<5	<50	<50	3.7
APR 13...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50	3.2
MAY 10...	8	--	<3	<3.0	150	150	<5	<5	<50	<50	4.1
JUN 20...	<5	<5	<3	<3.0	170	170	<5	<5	<100	<100	4.1
AUG 02...	11	--	<3	<3.0	230	230	<5	<5	<50	<50	3.7
SEP 14...	<5	<5	<3	<3.0	150	140	<5	<5	<50	<50	8.3

WABASH RIVER BASIN

03336900 SALT FORK NEAR ST. JOSEPH, IL

LOCATION.--Lat 40°08'55", long 88°02'00", in NW1/4SE1/4 sec.35, T.20 N., R.10 E., Champaign County, Hydrologic Unit 05120109, on right bank at downstream side of township highway bridge, 0.2 mi downstream from Spoon River, 2.5 mi north of St. Joseph, and at mile 46.8.

DRAINAGE AREA.--134 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1958 to current year.

REVISED RECORDS.--WDR IL-83-1: 1982(m).

GAGE.--Water-stage recorder. Datum of gage is 650.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Diurnal fluctuation at low flow caused by Rantoul sewage-treatment plant.

AVERAGE DISCHARGE.--31 years, 114 ft^3/s, 11.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,860 ft^3/s, May 16, 1968, gage height, 18.26 ft; maximum gage height, 18.99 ft, Feb. 10, 1959; minimum discharge, 1.7 ft^3/s, Sept. 22, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	1000	*2,460	*14.90	No other peak greater than base discharge.			

Minimum daily discharge, 5.0 ft^3/s, Oct. 10, 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	6.7	27	73	60	e29	54	94	208	29	16	146
2	12	6.7	26	65	51	e22	78	87	280	28	15	113
3	6.8	7.1	25	61	47	51	690	77	180	29	15	44
4	5.4	18	23	53	e43	302	594	76	153	27	14	28
5	5.3	21	22	60	e38	235	329	75	125	25	14	22
6	5.5	11	e21	83	e34	123	234	66	109	23	13	18
7	5.5	11	e20	130	e38	112	201	60	99	23	12	17
8	5.6	8.9	e18	353	e35	96	250	59	92	22	12	24
9	5.1	8.8	e18	154	e33	87	283	85	85	21	12	188
10	5.0	42	19	115	e32	88	196	80	75	19	12	105
11	5.2	28	24	95	e33	91	165	70	70	19	12	59
12	5.0	22	e22	e85	e34	85	146	68	79	18	23	43
13	5.3	28	e19	e76	e35	82	125	65	68	17	15	35
14	5.6	22	e18	e70	e37	82	118	59	61	16	11	67
15	5.6	18	19	e64	e35	77	113	56	57	16	15	97
16	16	213	20	e59	e33	61	101	52	54	15	12	66
17	9.2	107	22	e55	e32	62	97	49	51	14	10	49
18	21	55	e20	e53	e30	88	92	49	48	14	9.3	39
19	9.9	44	e17	e51	e29	72	88	138	47	23	8.7	33
20	8.0	98	e16	e48	e28	85	82	485	44	120	8.8	29
21	7.8	190	e14	e46	e29	120	79	227	42	121	8.9	26
22	8.3	94	27	e45	e30	94	77	161	40	63	11	24
23	14	71	390	e44	e31	84	73	149	38	39	20	21
24	12	57	173	e43	e31	78	69	124	36	29	22	19
25	9.0	48	106	47	e30	72	67	271	33	26	12	18
26	7.9	44	80	75	e30	64	63	2330	32	23	10	18
27	7.6	41	118	85	e29	63	80	1310	60	21	11	17
28	7.5	35	236	71	e28	63	149	551	44	19	12	16
29	6.9	32	140	67	---	61	152	342	33	17	15	16
30	6.8	30	108	65	---	67	110	252	31	17	13	16
31	6.8	---	87	62	---	59	---	193	---	17	11	---
TOTAL	248.5	1418.2	1895	2453	975	2755	4955	7760	2374	910	405.7	1413
MEAN	8.02	47.3	61.1	79.1	34.8	88.9	165	250	79.1	29.4	13.1	47.1
MAX	21	213	390	353	60	302	690	2330	280	121	23	188
MIN	5.0	6.7	14	43	28	22	54	49	31	14	8.7	16
CFSM	.06	.35	.46	.59	.26	.66	1.23	1.87	.59	.22	.10	.35
IN.	.07	.39	.53	.68	.27	.76	1.38	2.15	.66	.25	.11	.39

CAL YR 1988 TOTAL 24788.3 MEAN 67.7 MAX 942 MIN 5.0 CFSM .51 IN. 6.88
WTR YR 1989 TOTAL 27562.4 MEAN 75.5 MAX 2330 MIN 5.0 CFSM .56 IN. 7.65

e Estimated

03336900 SALT FORK NEAR ST. JOSEPH, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-62, 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
09...	1130	17002	17002	9.5	924	7.90	7.0	--	12.4	14	160
DEC											
19...	0930	17002	17002	17	882	7.70	1.0	5.2	15.1	3	980
JAN											
26...	1030	17002	17002	68	710	7.90	7.0	6.3	11.2	9	490
MAR											
02...	0930	17002	17002	32	743	8.10	1.0	1.0	14.5	6	50
APR											
05...	1000	17002	17002	338	631	7.90	7.5	13	11.4	8	170
MAY											
15...	1000	17002	17002	58	753	8.10	13.0	4.1	9.4	6	120
JUN											
29...	1030	17002	17002	35	935	8.00	24.0	1.9	12.0	11	1100
AUG											
02...	1200	17002	17002	17	910	8.60	28.5	6.3	9.7	11	300
SEP											
14...	1230	17002	17002	51	724	7.50	15.5	6.3	9.0	12	<10

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
NOV											
09...	310	69	73	72	32	31	78	77	6.3	6.3	239
DEC											
19...	390	120	94	91	41	39	45	44	2.6	2.4	271
JAN											
26...	310	100	75	74	32	31	23	23	1.2	1.1	209
MAR											
02...	370	140	85	86	37	37	22	23	1.3	1.3	224
APR											
05...	310	140	77	75	31	30	8.0	8.0	0.9	0.85	175
MAY											
15...	370	150	86	86	37	37	17	17	1.0	1.3	216
JUN											
29...	380	140	90	90	37	38	23	24	0.9	0.54	243
AUG											
02...	370	110	82	82	39	39	55	56	2.6	2.0	255
SEP											
14...	330	85	81	80	33	32	23	23	1.7	1.6	247

03336900 SALT FORK NEAR ST. JOSEPH, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
NOV 09...	80	98	508	3	2	5.00	<0.100	<0.001	1.90	1.80	90
DEC 19...	86	69	504	3	1	7.20	<0.100	<0.001	0.840	0.760	70
JAN 26...	69	45	369	26	3	10.0	<0.100	<0.001	0.350	0.310	400
MAR 02...	74	44	400	6	1	10.0	<0.100	<0.001	0.350	0.330	180
APR 05...	55	30	304	21	3	16.0	<0.100	<0.001	0.130	0.080	950
MAY 15...	65	42	376	6	2	12.0	<0.100	<0.003	0.316	0.300	300
JUN 29...	78	44	421	8	1	9.20	0.170	0.009	0.428	0.390	880
AUG 02...	100	80	514	4	1	2.70	<0.100	<0.024	0.650	0.590	320
SEP 14...	57	37	379	94	12	7.00	<0.100	<0.001	0.500	0.460	830

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV 09...	<50	40	35	<0.5	<0.5	270	270	<3	<3	<5	<5
DEC 19...	<50	50	51	<0.5	<0.5	150	150	<3	<3	<5	<5
JAN 26...	<50	50	47	<0.5	<0.5	90	90	<3	<3	<5	<5
MAR 02...	70	40	40	<0.5	<0.5	100	100	<3	<3	<5	<5
APR 05...	190	50	44	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAY 15...	130	50	46	<0.5	<0.5	80	90	<3	<3	<5	<5
JUN 29...	190	60	54	<0.5	<0.5	120	120	<3	<3	<5	<5
AUG 02...	<50	50	46	<0.5	<0.5	210	--	<3	<3	8	7
SEP 14...	<50	60	56	<0.5	<0.5	130	130	<3	<3	<5	<5

03336900 SALT FORK NEAR ST. JOSEPH, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV 09...	<5	<5	<5	<5	150	<50	<5	<5	40	35	<0.05
DEC 19...	<5	<5	6	<5	120	<50	<5	<5	29	24	<0.05
JAN 26...	<5	<5	<5	<5	520	<50	<5	<5	33	15	<0.05
MAR 02...	<5	<5	<5	<5	240	<50	<5	<5	26	17	<0.05
APR 05...	<5	<5	<5	<5	1000	<50	<5	<5	56	11	<0.05
MAY 15...	<5	<5	<5	<5	280	<50	<5	<5	29	20	<0.05
JUN 29...	<5	<5	<5	<5	930	<50	<5	<5	30	10	<0.05
AUG 02...	<5	<5	<5	<5	380	<50	<5	<5	52	35	<0.05
SEP 14...	<5	<5	<5	<5	1100	<50	<5	<5	52	21	<0.05

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV 09...	<5	<5	<3	<3.0	200	200	<5	<5	<50	<50
DEC 19...	<5	--	<3	<3.0	230	230	<5	<5	<50	<50
JAN 26...	7	<5	<5	<3.0	170	170	<5	<5	<50	<50
MAR 02...	<5	5	<3	<3.0	200	200	<5	<5	<50	<50
APR 05...	<5	<5	<3	<3.0	140	140	<5	<5	<50	<50
MAY 15...	7	6	<3	<3.0	180	180	<5	<5	<50	<50
JUN 29...	<5	<5	<3	<3.0	190	--	<5	<5	<50	<50
AUG 02...	7	<5	<3	<3.0	210	--	<5	<5	<50	<50
SEP 14...	<5	<5	<3	<3.0	170	170	<5	<5	<50	<50

03337000 BONEYARD CREEK AT URBANA, IL

LOCATION.--Lat 40°06'40", long 88°13'35", in NW1/4NE1/4 sec.18, T.19 N., R.9 E., Champaign County, Hydrologic Unit 05120109, on right bank at downstream side of footbridge at rear of fire station on University of Illinois campus in Urbana, 1.2 mi upstream from mouth.

DRAINAGE AREA.--4.46 mi^2, of which 0.88 mi^2 is noncontributing.

PERIOD OF RECORD.--July 1948 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area. WDR IL-83-1: 1982(M).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 708.10 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, at datum 0.15 ft higher.

REMARKS.--Records good except those above 15 ft^3/s and those for estimated daily discharges, which are poor. Diurnal fluctuation at low flow caused by industrial plants upstream. Since Aug. 1, 1960, storm runoff from 0.88 mi^2 at headwaters has been diverted to Saline Branch through Northwest Diversion Conduit.

AVERAGE DISCHARGE.--41 years, 4.22 ft^3/s, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 982 ft^3/s, July 30, 1979, gage height, 8.94 ft, on basis of indirect measurement of peak flow; minimum daily, 0.03 ft^3/s, Feb. 12, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 16	0035	489	4.80	July 21	2025	434	4.38
May 19	1700	293	3.36	Aug. 23	0925	381	3.97
May 25	2105	609	5.78	Aug. 27	1805	*658	*6.21
June 23	1430	320	3.54	Sept. 1	0715	413	4.22
July 19	1345	525	5.08	Sept. 8	0955	316	3.51

Minimum daily discharge, 0.60 ft^3/s, Nov. 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	.71	1.3	1.1	1.1	1.2	1.6	3.2	3.7	1.4	1.2	44
2	1.4	.69	1.3	1.2	2.5	1.2	36	2.8	3.0	1.4	1.1	2.5
3	.98	.74	1.3	1.6	1.1	4.5	17	2.6	13	2.1	1.2	2.0
4	.89	28	1.2	1.1	1.0	3.3	6.7	3.8	3.2	1.4	1.3	2.0
5	.88	1.5	1.3	8.3	.98	1.1	5.3	4.5	3.1	1.3	1.3	2.4
6	.85	1.4	1.2	5.5	1.0	.91	3.9	2.6	2.9	1.3	1.3	2.4
7	.79	.77	1.2	3.5	1.1	2.1	3.5	2.2	2.8	1.3	1.3	2.1
8	.75	.60	1.2	1.8	1.1	2.5	15	12	2.6	1.2	1.3	39
9	.74	11	1.2	1.4	1.2	3.1	3.5	15	2.6	1.1	1.3	8.7
10	.77	6.1	1.1	1.3	1.2	2.6	3.2	3.2	2.4	1.2	1.3	2.5
11	.81	.85	1.2	1.4	1.5	1.8	2.9	2.8	2.4	1.2	1.4	2.1
12	.87	9.9	1.3	1.2	1.4	1.4	2.6	2.6	4.6	1.3	1.3	1.9
13	.96	1.5	2.1	1.1	4.6	1.6	2.4	2.4	2.4	1.2	1.3	2.1
14	.95	.90	1.3	1.4	2.1	2.5	4.5	2.2	2.4	1.2	1.7	21
15	7.7	1.3	1.1	2.0	4.1	1.5	3.7	2.1	2.0	1.0	1.5	5.6
16	4.0	37	1.2	.96	1.1	1.3	2.2	2.3	1.6	1.3	1.4	4.6
17	17	2.6	1.2	.92	1.1	2.9	2.1	2.3	1.4	1.3	1.5	4.0
18	2.7	1.9	1.2	.94	1.1	4.0	4.8	2.4	3.6	1.1	1.5	4.0
19	1.1	4.4	1.1	.84	1.0	1.7	2.2	36	1.6	33	1.6	4.0
20	1.1	27	1.1	.77	6.7	15	2.0	4.9	1.6	15	1.7	4.1
21	3.0	4.3	1.1	.77	2.6	2.5	2.0	3.1	1.5	25	4.5	3.8
22	1.2	2.1	40	.77	.91	2.0	1.8	11	1.5	5.2	14	3.5
23	11	2.0	4.3	.77	1.0	1.9	3.1	3.6	15	1.8	32	2.7
24	1.2	1.8	1.7	e.77	1.4	1.8	2.0	2.9	1.6	1.6	2.1	2.6
25	1.0	1.7	.99	e4.5	2.4	1.7	2.0	54	1.5	1.5	1.8	2.8
26	.98	4.4	2.6	e3.5	1.7	1.6	2.8	23	2.0	1.4	2.0	3.1
27	1.7	1.9	13	.72	1.2	1.6	5.5	7.1	24	1.4	26	2.9
28	1.1	1.4	2.8	1.4	1.3	3.5	46	4.9	1.8	1.3	9.9	2.8
29	.87	1.3	1.8	1.6	---	3.9	10	3.9	1.6	1.2	11	2.8
30	.72	1.3	1.6	1.0	---	4.0	3.8	3.5	1.4	1.3	1.9	2.6
31	.74	---	1.5	1.1	---	2.0	---	3.3	---	1.2	3.3	---
TOTAL	78.25	161.06	96.49	55.23	49.49	82.71	204.1	232.2	114.8	114.2	136.0	190.6
MEAN	2.52	5.37	3.11	1.78	1.77	2.67	6.80	7.49	3.83	3.68	4.39	6.35
MAX	17	37	40	8.3	6.7	15	46	54	24	33	32	44
MIN	.72	.60	.99	.72	.91	.91	1.6	2.1	1.4	1.0	1.1	1.9

CAL YR 1988 TOTAL 959.75 MEAN 2.62 MAX 40 MIN .60
WTR YR 1989 TOTAL 1515.13 MEAN 4.15 MAX 54 MIN .60

e Estimated

03337700 SALINE BRANCH NEAR MAYVIEW, IL

LOCATION.--Lat 40°07'59", long 88°06'15", in NW1/4SW1/4 sec.5, T.19 N., R.10 E., Champaign County, Hydrologic Unit 05120109, at bridge on country road 179E, 1.4 mi north of Mayview, 7.0 mi downstream from Boneyard Creek, and at mile 3.7.

DRAINAGE AREA.--82.1 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)
NOV											
09...	1100	17002	17002	7.2	845	7.10	11.0	--	9.8	19	--
DEC											
19...	1030	17002	17002	6.7	859	8.00	5.0	2.1	14.8	12	--
JAN											
26...	1130	17002	17002	70	449	7.90	9.0	35	10.5	43	--
MAR											
02...	1030	17002	17002	16	774	8.20	4.0	0.60	14.9	15	--
APR											
05...	1100	17002	17002	206	685	7.90	8.5	7.1	11.6	11	--
MAY											
15...	1100	17002	17002	47	742	8.10	14.0	3.2	12.3	10	--
JUN											
07...	1330	17002	17002	68	756	8.00	22.5	2.4	8.9	10	1.0
29...	1130	17002	17002	16	804	7.90	23.0	1.7	8.5	14	--
JUL											
28...	1315	17002	17002	16	874	8.10	28.0	2.9	11.0	10	1.0
SEP											
18...	1000	17002	17002	77	963	8.00	17.0	1.3	9.6	5	--

DATE	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
NOV											
09...	60	200	200	49	48	19	19	91	91	17	16
DEC											
19...	30	220	220	50	50	22	22	95	94	10	10
JAN											
26...	5400	110	110	40	28	12	9.8	41	39	3.3	2.8
MAR											
02...	<10	250	250	57	58	25	26	71	73	7.3	7.4
APR											
05...	700	300	300	76	73	31	29	20	20	2.0	1.4
MAY											
15...	480	310	310	74	72	31	31	34	34	3.2	3.2
JUN											
07...	2700	320	320	79	77	33	32	29	28	2.5	2.8
29...	710	250	250	61	58	26	25	73	70	5.8	5.6
JUL											
28...	130	270	270	62	62	29	29	82	82	8.8	8.9
SEP											
18...	<10	320	320	78	75	32	31	36	35	4.0	4.1

03337700 SALINE BRANCH NEAR MAYVIEW, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
NOV											
09...	130	53	355	1	1	16.0	0.330	<0.001	6.40	6.10	<50
DEC											
19...	99	69	345	2	1	8.00	<0.100	<0.001	5.14	5.10	<50
JAN											
26...	35	52	167	77	12	3.90	0.150	0.002	1.20	0.890	1700
MAR											
02...	75	64	303	4	2	13.0	<0.100	<0.002	3.10	3.10	100
APR											
05...	54	44	222	42	6	16.0	0.120	0.002	0.420	0.340	800
MAY											
15...	65	48	254	18	4	13.0	0.190	0.006	0.870	0.820	310
JUN											
07...	62	43	247	33	5	16.0	0.130	0.006	1.01	0.980	2200
29...	85	63	308	6	2	8.60	0.130	0.005	2.60	2.60	280
JUL											
28...	110	56	346	3	<1	11.0	<0.100	<0.008	4.00	3.80	80
SEP											
18...	53	39	238	4	1	9.40	<0.100	<0.003	1.80	1.80	160

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV											
09...	<50	40	37	<0.5	<0.5	560	550	<3	<3	<5	<5
DEC											
19...	<50	30	33	<0.5	<0.5	1100	1000	<3	<3	<5	<5
JAN											
26...	<50	50	22	<0.5	<0.5	140	130	<3	<3	8	<5
MAR											
02...	<50	40	37	<0.5	<0.5	380	--	<3	<3	<5	<5
APR											
05...	190	60	--	<0.5	<0.5	100	100	<3	<3	<5	<5
MAY											
15...	120	50	43	<0.5	<0.5	280	270	<3	<3	<5	<5
JUN											
07...	1900	70	65	2.0	<2	250	240	<3	<3	8	6
29...	170	50	45	<0.5	<0.5	670	640	<3	<3	<5	<5
JUL											
28...	50	50	49	<0.5	<0.5	690	690	<3	<3	<5	<5
SEP											
18...	70	60	56	<0.5	<0.5	290	280	<3	<3	<5	<5

03337700 SALINE BRANCH NEAR MAYVIEW, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV											
09...	<5	<5	<5	<5	120	87	<5	<5	21	21	<0.05
DEC											
19...	<5	<5	<5	<5	100	<50	<5	<5	12	10	<0.05
JAN											
26...	<5	<5	21	<5	2900	<50	48	<5	150	16	<0.05
MAR											
02...	<5	<5	<5	<5	150	60	<5	<5	25	21	<0.05
APR											
05...	<5	<5	<5	<5	960	<50	<5	<5	55	14	<0.05
MAY											
15...	<5	<5	<5	<5	330	<50	<5	<5	34	19	<0.05
JUN											
07...	<5	<5	9	6	670	<50	<5	<5	39	16	<0.05
29...	<5	<5	<5	<5	210	<50	<5	<5	9	<5	<0.05
JUL											
28...	<5	<5	<5	<5	80	<50	<5	<5	11	9	<0.05
SEP											
18...	<5	<5	<5	<5	160	<50	<5	<5	14	10	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
NOV											
09...	12	9	<3	<3.0	180	180	<5	<5	<50	<50	2
DEC											
19...	17	18	<3	<3.0	210	200	<5	<5	<50	<50	5
JAN											
26...	10	<5	<3	<3.0	100	76	<5	<5	<100	<100	<1
MAR											
02...	13	10	<3	<3.0	170	--	<5	<5	<100	<100	1
APR											
05...	<5	<5	<3	<3.0	130	120	<5	<5	<50	<50	2
MAY											
15...	11	14	<3	<3.0	150	140	<5	<5	<50	<50	2
JUN											
07...	10	7	<3	<3.0	140	140	5	<5	<50	<50	2
29...	6	6	<3	<3.0	170	160	<5	<5	<50	<50	--
JUL											
28...	14	14	<3	<3.0	180	180	<5	<5	<50	<50	--
SEP											
18...	13	17	<3	<3.0	160	150	<5	<5	<50	<50	--

03338097 SALT FORK NEAR OAKWOOD, IL

LOCATION.--Lat 40°04'56", long 87°46'53", in SE1/4NW1/4 sec.25, T.19 N., R.13 W., Vermilion County, Hydrologic Unit 05120109, at bridge on county highway 331, 1.3 mi downstream from Jordan Creek, 2 mi south of Oakwood, and at mile 6.0.

DRAINAGE AREA.--489 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1959-77 are published in Water-Resources Investigations 78-24 and 79-25 as site BPJ 03.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
10...	1000	17002	17002	79	497	7.30	9.0	14	13.3	29	1500
DEC											
14...	1100	17002	17002	50	832	8.30	1.0	4.1	15.6	6	<10
JAN											
19...	1100	17002	17002	180	735	8.50	3.0	1.5	14.9	4	<10
FEB											
23...	1030	17002	17002	250	861	8.20	0.0	0.50	16.9	9	<10
APR											
13...	1100	17002	17002	675	683	8.10	8.0	5.2	11.6	7	<10
MAY											
10...	1030	17002	17002	954	650	--	--	9.5	--	12	320
JUN											
20...	0800	17002	17002	225	735	7.70	22.0	0.70	8.0	11	100
AUG											
02...	1100	17002	17002	44	789	8.10	25.0	7.2	8.7	10	50
SEP											
14...	1100	17002	17002	375	634	7.90	16.0	8.5	9.5	13	<10

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
NOV											
10...	180	41	45	43	19	18	37	37	5.7	5.0	141
DEC											
14...	320	79	77	74	33	32	63	60	6.5	6.2	238
JAN											
19...	320	120	77	77	32	32	27	28	1.3	1.4	204
FEB											
23...	320	120	75	75	31	31	59	59	2.1	2.1	191
APR											
13...	320	130	77	75	32	32	13	13	1.5	1.6	193
MAY											
10...	310	130	75	72	32	31	14	14	2.0	1.7	182
JUN											
20...	360	150	86	85	36	36	20	20	0.6	0.88	210
AUG											
02...	310	74	69	68	33	33	52	52	4.2	4.2	232
SEP											
14...	310	73	75	73	31	30	15	15	1.3	2.3	233

03338097 SALT FORK NEAR OAKWOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
NOV											
10...	54	34	275	61	8	1.90	0.110	<0.001	1.54	1.30	4300
DEC											
14...	100	58	477	2	1	9.40	<0.100	<0.002	2.70	2.40	70
JAN											
19...	65	50	376	5	1	12.0	<0.100	<0.003	0.470	0.440	170
FEB											
23...	56	100	440	7	2	11.0	<0.100	<0.001	0.520	0.500	180
APR											
13...	55	36	329	29	4	16.0	<0.100	<0.002	0.260	0.210	850
MAY											
10...	50	36	314	67	8	15.0	0.330	--	0.490	0.400	1200
JUN											
20...	63	38	370	36	5	15.0	<0.100	<0.002	0.680	0.640	2000
AUG											
02...	92	49	438	8	1	5.20	<0.100	<0.007	1.20	1.20	410
SEP											
14...	42	28	330	136	16	7.30	<0.100	<0.002	0.428	0.370	1300

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
NOV											
10...	<50	50	23	<0.5	<0.5	200	180	<3	<3	<5	<5
DEC											
14...	<50	40	39	<0.5	<0.5	520	510	<3	<3	<5	<5
JAN											
19...	<50	50	46	<0.5	<0.5	150	150	<3	<3	<5	<5
FEB											
23...	60	40	35	<0.5	<0.5	130	130	<3	<3	<5	<5
APR											
13...	290	50	44	<0.5	<0.5	80	80	<3	<3	<5	<5
MAY											
10...	70	50	42	<0.5	<0.5	90	90	--	--	6	5
JUN											
20...	1100	70	59	<0.5	<0.5	170	--	<3	<3	<5	<5
AUG											
02...	70	60	53	<0.5	<0.5	380	380	<3	<3	<5	<5
SEP											
14...	50	70	53	<0.5	<0.5	120	120	<3	<3	<5	<5

03338097 SALT FORK NEAR OAKWOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)
NOV 10...	<5	<5	6	<5	4500	75	<5	<5	150	32	0.86
DEC 14...	<5	<5	<5	<5	130	<50	<5	<5	16	12	<0.05
JAN 19...	<5	<5	<5	<5	160	<50	<5	<5	15	10	<0.05
FEB 23...	<5	<5	<5	<5	190	<50	<5	<5	21	12	<0.05
APR 13...	<5	<5	<5	<5	870	65	<5	<5	38	13	0.06
MAY 10...	<5	<5	<5	<5	1600	<50	<5	<5	67	<5	<0.05
JUN 20...	<5	<5	5	<5	1000	<50	<5	<5	27	<5	<0.05
AUG 02...	<5	<5	<5	<5	410	<50	<5	<5	25	8	<0.05
SEP 14...	<5	<5	<5	<5	1700	<50	<5	<5	67	7	<0.05

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 10 ..	<5	<5	<3	<3.0	120	110	11	<5	<100	<100	11
DEC 14...	8	9	<3	<3.0	200	190	<5	<5	<50	<50	6.5
JAN 19...	<5	<5	<3	<3.0	150	--	<5	<5	<50	<50	4.0
FEB 23...	<5	<5	<3	<3.0	150	150	<5	<5	<100	<100	4.1
APR 13...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50	2.7
MAY 10...	9	<5	<3	<3.0	130	130	<5	<5	<50	<50	3.7
JUN 20...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50	3.2
AUG 02...	12	--	<3	<3.0	170	170	6	<5	<50	<50	5.2
SEP 14...	<5	<5	<3	<3.0	140	130	<5	<5	<50	<50	4.8

03338780 NORTH FORK VERMILION RIVER NEAR BISMARCK, IL

LOCATION.--Lat 40°16'13", long 87°38'34", in SE1/4NE1/4 sec.24, T.21 N., R.12 W., Vermilion County, Hydrologic Unit 05120109, at bridge on county road 2750 N, 1.8 mi west of Bismarck, 1.9 mi downstream from Painter Creek, 6.6 mi downstream from Middle Branch of North Fork Vermilion River, and at mile 17.7.

DRAINAGE AREA.--262 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1970 to September 1973, low-flow partial-record station. October 1988 to September 1989.

GAGE.--Water-stage recorder. Elevation of gage is 594 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,880 ft^3/s, May 27, 1989, gage height, 13.20 ft; minimum, 5.2 ft^3/s, Oct. 11, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft^3/s, May 27, gage height, 13.20 ft; minimum, 5.2 ft^3/s, Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	12	e90	199	178	e60	127	465	358	60	16	426
2	11	13	e80	169	148	e72	143	361	412	55	19	251
3	14	15	e75	151	130	103	1100	289	500	54	15	100
4	11	16	e70	136	114	514	1400	246	722	54	14	55
5	7.6	201	e65	120	84	653	949	245	405	48	13	38
6	6.7	169	e60	197	e55	341	632	219	291	44	13	29
7	6.3	113	e56	374	e60	216	486	185	238	39	12	24
8	6.3	88	e54	991	e66	214	428	169	208	36	11	24
9	6.3	73	e50	567	e62	172	433	177	185	35	11	127
10	6.3	224	e45	346	e60	158	355	158	159	32	11	81
11	5.9	278	e52	261	e56	e140	304	137	141	30	11	52
12	5.8	151	61	259	e52	e130	275	132	148	28	10	37
13	5.6	157	61	240	e50	e120	241	134	148	27	10	30
14	5.6	146	61	204	e47	e110	220	126	126	26	10	64
15	6.6	113	57	197	e45	e105	222	118	113	24	9.8	101
16	15	473	60	165	e50	e95	197	113	106	23	12	73
17	20	708	52	153	e53	e92	187	109	99	21	11	52
18	70	261	50	149	e57	302	177	106	93	20	9.8	38
19	74	177	51	143	e60	366	177	154	89	26	9.5	30
20	40	279	52	140	e64	293	162	743	88	51	9.6	26
21	27	964	48	127	e60	434	160	659	92	60	9.8	23
22	21	546	48	127	e57	329	156	413	81	53	11	22
23	21	340	617	126	e52	263	149	316	75	44	79	20
24	26	248	613	119	e55	231	142	246	127	36	32	18
25	31	199	347	115	e62	209	140	644	83	27	21	18
26	23	170	218	161	e59	182	139	3550	70	23	18	17
27	19	159	261	289	e56	171	220	2950	89	21	16	16
28	17	135	792	236	e52	168	1230	1410	138	19	28	16
29	16	114	521	210	---	163	1500	768	92	18	35	15
30	13	e100	333	199	---	152	653	545	68	17	24	14
31	13	---	251	186	---	142	---	431	---	16	17	---
TOTAL	556.6	6642	5251	7056	1944	6700	12704	16318	5544	1067	528.5	1837
MEAN	18.0	221	169	228	69.4	216	423	526	185	34.4	17.0	61.2
MAX	74	964	792	991	178	653	1500	3550	722	60	79	426
MIN	5.6	12	45	115	45	60	127	106	68	16	9.5	14
CFSM	.07	.85	.65	.87	.26	.82	1.62	2.01	.71	.13	.07	.23
IN.	.08	.94	.75	1.00	.28	.95	1.80	2.32	.79	.15	.08	.26

WTR YR 1989 TOTAL 66148.1 MEAN 181 MAX 3550 MIN 5.6 CFSM .69 IN. 9.39

e Estimated

03338780 NORTH FORK VERMILION RIVER NEAR BISMARCK, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
10...	0830	17002	17002	68	613	7.20	9.0	12	10.2	27	20000
DEC											
14...	0900	17002	17002	55	720	7.90	1.0	4.2	14.7	<1	110
JAN											
19...	0900	17002	17002	131	692	8.40	4.0	1.0	13.9	4	220
FEB											
23...	0830	17002	17002	52	708	8.60	1.0	0.50	15.2	6	70
APR											
13...	0900	17002	17002	241	682	8.00	7.0	3.4	11.2	7	520
MAY											
10...	0830	17002	17002	151	690	--	--	4.3	--	8	350
JUN											
20...	1000	17002	17002	88	726	7.80	21.0	12	7.7	8	640
AUG											
02...	0900	17002	17002	19	710	8.10	22.5	13	7.4	8	250
SEP											
14...	0900	17002	17002	42	672	7.70	16.0	6.8	8.8	9	200

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)
NOV											
10...	310	310	71	71	31	31	14	14	4.3	3.3	29
DEC											
14...	380	380	91	90	39	38	12	12	1.4	1.3	28
JAN											
19...	350	350	88	85	36	34	8.5	8.1	0.8	0.71	30
FEB											
23...	370	370	89	87	37	37	13	12	1.0	0.97	34
APR											
13...	350	350	84	83	34	34	6.9	6.8	1.1	0.97	26
MAY											
10...	350	350	37	84	36	34	7.8	7.5	1.6	1.4	27
JUN											
20...	390	390	95	94	38	37	9.0	9.0	0.8	1.5	26
AUG											
02...	340	340	74	73	38	38	22	22	2.1	2.1	33
SEP											
14...	340	340	80	80	33	33	14	15	2.9	2.7	29

03338780 NORTH FORK VERMILION RIVER NEAR BISMARCK, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
NOV 10...	46	7	6.80	0.210	<0.001	1.6	1.8	8.6	0.320	0.190	5100
DEC 14...	3	1	8.20	<0.100	<0.001	--	0.30	8.5	0.060	0.040	90
JAN 19...	11	2	12.0	<0.100	<0.003	--	<0.10	--	0.030	0.029	200
FEB 23...	2	1	11.0	<0.100	<0.004	--	0.30	11	0.030	0.020	100
APR 13...	13	3	15.0	<0.100	<0.002	--	0.60	16	0.030	0.010	590
MAY 10...	22	3	12.0	<0.100	--	--	0.60	13	0.100	0.070	660
JUN 20...	40	7	11.0	<0.100	<0.003	--	1.2	12	0.090	0.060	2000
AUG 02...	25	4	0.830	<0.100	<0.006	--	0.50	1.3	0.120	0.090	830
SEP 14...	44	5	3.50	<0.100	<0.002	--	0.50	4.0	0.150	0.120	1100

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)
NOV 10...	<50	60	36	<0.5	<0.5	70	60	<3	<3	<5	<5
DEC 14...	<50	40	40	<0.5	<0.5	50	50	<3	<3	<5	<5
JAN 19...	50	40	41	<0.5	<0.5	<50	<50	<3	<3	<5	<5
FEB 23...	60	30	31	<0.5	<0.5	<50	<50	<3	<3	<5	<5
APR 13...	190	40	38	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAY 10...	250	40	40	<0.5	<0.5	<50	<50	--	--	6	6
JUN 20...	1300	60	57	<0.5	<0.5	60	50	<3	<3	7	5
AUG 02...	60	60	53	<0.5	<0.5	110	110	<3	<3	<5	<5
SEP 14...	60	70	57	<0.5	<0.5	90	--	<3	<3	<5	<5

03338780 NORTH FORK VERMILION RIVER NEAR BISMARCK, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV											
10...	<5	<5	11	<5	5200	50	9	<5	160	56	<0.05
DEC											
14...	<5	<5	<5	<5	440	<50	<5	<5	53	43	0.08
JAN											
19...	<5	<5	<5	<5	230	<50	<5	<5	36	21	<0.05
FEB											
23...	<5	<5	<5	<5	130	<50	<5	<5	47	43	<0.05
APR											
13...	<5	<5	<5	<5	510	<50	<5	<5	47	25	<0.05
MAY											
10...	<5	<5	9	<5	600	<50	<5	<5	50	23	<0.05
JUN											
20...	<5	<5	6	<5	1100	<50	<5	<5	45	5	<0.05
AUG											
02...	<5	<5	<5	<5	850	<50	<5	<5	86	39	<0.05
SEP											
14...	<5	<5	<5	<5	1300	<50	<5	<5	96	39	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV											
10...	5	<5	<3	<3.0	130	130	11	<5	100	<50	12
DEC											
14...	<5	<5	<3	<3.0	180	170	<5	<5	<50	<50	3.4
JAN											
19...	<5	<5	<3	<3.0	150	140	<5	<5	<50	<50	2.9
FEB											
23...	6	7	<3	<3.0	140	140	<5	<5	<50	<50	3.0
APR											
13...	<5	<5	<3	<3.0	120	120	<5	<5	<50	<50	2.5
MAY											
10...	8	7	<3	<3.0	130	130	<5	<5	<50	<50	2.9
JUN											
20...	<5	<5	<3	<3.0	150	150	5	<5	<100	<100	2.6
AUG											
02...	9	<5	<3	<3.0	230	220	<5	<5	<50	<50	4.3
SEP											
14...	<5	<5	<3	<3.0	190	190	<5	<5	<50	<50	5.0

WABASH RIVER BASIN

03339000 VERMILION RIVER NEAR DANVILLE, IL

LOCATION.--Lat 40°06'03", long 87°35'52", in NW1/4NW1/4 sec.22, T.19 N., R.11 W., Vermilion County, Hydrologic Unit 05120109, on right bank at Danville sewage-treatment plant, 1.7 mi upstream from Stony Creek, 2.2 mi southeast of Danville, and at mile 19.5.

DRAINAGE AREA.--1,290 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1914 to September 1921, June 1928 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 853: 1936(M). WSP 973: 1939. WSP 1305: 1915-16, 1920, 1929. WSP 1335: 1934(m). WSP 1909: 1960. WDR IL-75-1: Drainage area. WDR IL-84-1: 1983.

GAGE.--Water-stage recorder. Datum of gage is 503.33 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Jan. 9, 1935, nonrecording gage at same site and datum. Jan. 9, 1935, to Aug. 30, 1982, at site 0.3 mi downstream at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated at times by storage at Lake Vermilion on North Fork Vermilion River, 4.5 mi upstream from station, usable capacity, 7,440 acre-ft, and by Danville sewage-treatment plant. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--68 years, 975 ft^3/s, 10.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,700 ft^3/s, Mar. 13, 1939, gage height, 28.59 ft; minimum daily, 2 ft^3/s, Oct. 9-14, 1920, Aug. 10, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	1415	*15,400	*18.55	No other peak greater than base discharge.			

Minimum daily discharge, 32 ft^3/s, Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	48	253	821	703	e250	576	1820	1970	293	118	555
2	102	47	237	681	665	e320	604	1300	1640	262	95	789
3	58	46	229	608	619	464	3430	1090	1780	268	82	1180
4	80	58	218	507	514	1210	6050	965	1730	289	90	538
5	57	129	e200	483	302	2640	4690	994	2400	248	83	286
6	46	236	e190	697	e210	2020	2970	962	1770	223	70	226
7	44	152	e175	1150	e230	1150	2300	846	1260	169	62	205
8	43	86	e160	3190	e250	1020	2140	781	1030	172	54	262
9	40	113	e150	2710	e260	1010	2540	924	903	138	49	1170
10	40	275	e140	1570	e240	922	2250	1260	836	129	46	1740
11	36	255	121	1200	e220	1040	1730	1030	772	140	54	1320
12	33	255	177	998	e210	1060	1510	811	709	129	61	771
13	32	289	171	972	e200	980	1290	716	720	129	49	592
14	34	286	171	828	e195	936	1130	660	575	106	52	579
15	38	239	170	795	e190	920	1130	641	464	75	149	967
16	68	465	144	682	e200	735	1050	706	551	86	135	970
17	76	1620	140	615	e215	611	983	617	464	75	133	822
18	117	1290	127	583	e225	787	995	527	498	66	126	600
19	102	547	135	561	e240	1310	937	661	478	84	124	424
20	146	849	146	538	e250	1040	839	2320	470	383	113	351
21	119	1640	138	527	e240	1320	780	3080	366	1050	103	301
22	94	1660	158	491	e230	1270	763	2060	390	771	85	268
23	104	1030	1130	485	e210	976	734	1570	340	648	149	246
24	89	769	2560	481	e220	927	684	1420	347	434	261	220
25	91	613	1550	468	e240	835	639	2600	472	431	228	197
26	108	553	1100	606	e230	766	614	13700	426	402	121	178
27	79	493	928	1060	e220	710	605	11700	362	296	89	163
28	73	418	1940	962	e210	696	2240	9120	443	181	109	155
29	63	336	1880	871	---	678	3750	4260	525	159	360	145
30	53	271	1290	787	---	664	2840	2960	443	138	658	144
31	52	---	1090	727	---	593	---	2390	---	134	481	---
TOTAL	2196	15068	17218	27654	7938	29860	52793	74491	25134	8108	4389	16364
MEAN	70.8	502	555	892	283	963	1760	2403	838	262	142	545
MAX	146	1660	2560	3190	703	2640	6050	13700	2400	1050	658	1740
MIN	32	46	121	468	190	250	576	527	340	66	46	144
CFSM	.05	.39	.43	.69	.22	.75	1.36	1.86	.65	.20	.11	.42
IN.	.06	.43	.50	.80	.23	.86	1.52	2.15	.72	.23	.13	.47

CAL YR 1988 TOTAL 207000 MEAN 566 MAX 5860 MIN 25 CFSM .44 IN. 5.97
WTR YR 1989 TOTAL 281213 MEAN 770 MAX 13700 MIN 32 CFSM .60 IN. 8.11

e Estimated

03339000 VERMILION RIVER NEAR DANVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1978 to current year. Additional chemical data for water years 1959-77 are published in Water-Resources Investigations 78-24 and 79-25 as site BP 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
26...	0900	17002	17002	116	781	8.00	8.0	5.6	9.5	15	<10
NOV											
23...	1100	17002	17002	1020	519	7.50	5.0	8.6	12.6	23	130
JAN											
11...	1100	17002	17002	1200	622	7.90	1.0	27	15.0	12	<10
FEB											
09...	0900	17002	17002	260	780	8.10	0.0	2.8	14.7	8	80
APR											
06...	0900	17002	17002	2970	596	7.90	8.0	30	11.7	19	300
MAY											
04...	1000	17002	17002	921	701	8.00	13.0	6.7	10.0	8	200
31...	1100	17002	17002	1970	635	7.80	20.0	37	8.6	17	840
AUG											
01...	1100	17002	17002	124	787	7.80	25.0	7.0	7.0	10	7900
31...	1100	17002	17002	481	492	7.70	23.0	39	7.6	18	800

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
OCT											
26...	270	95	59	60	28	28	68	69	6.4	6.4	171
NOV											
23...	240	98	60	56	26	24	16	15	3.1	2.2	141
JAN											
11...	290	130	68	68	29	29	14	14	1.5	1.3	156
FEB											
09...	360	140	82	83	37	37	32	32	2.3	2.4	220
APR											
06...	260	100	72	61	30	25	10	9.1	2.8	2.4	152
MAY											
04...	330	140	78	76	34	34	15	15	1.3	1.6	192
31...	270	91	85	67	32	24	11	9.5	2.0	1.3	176
AUG											
01...	320	120	69	69	36	35	48	48	3.8	3.3	198
31...	190	60	48	42	22	20	21	20	3.4	3.8	128

03339000 VERMILION RIVER NEAR DANVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT											
26...	160	47	0.6	478	8	2	2.80	<0.100	<0.002	--	0.90
NOV											
23...	58	28	0.2	268	29	5	8.60	<0.100	<0.001	--	1.2
JAN											
11...	70	32	0.2	308	39	6	12.0	<0.100	<0.001	--	0.70
FEB											
09...	100	44	0.3	435	6	1	12.0	<0.100	<0.001	--	0.34
APR											
06...	59	33	0.2	281	151	14	16.0	0.130	0.002	0.87	1.0
MAY											
04...	77	35	0.2	354	36	4	13.0	0.100	0.002	0.50	0.60
31...	58	27	0.2	293	174	14	14.0	<0.100	<0.003	--	1.2
AUG											
01...	120	46	0.4	445	23	4	5.20	<0.100	<0.004	--	0.90
31...	59	23	0.2	245	132	12	3.20	0.070	0.002	0.73	0.80

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
OCT											
26...	3.7	1.25	1.20	310	<50	2	30	25	<0.5	<0.5	620
NOV											
23...	9.8	0.350	0.210	4100	70	2	60	32	<0.5	<0.5	90
JAN											
11...	13	0.190	0.140	1200	70	1	50	40	<0.5	<0.5	60
FEB											
09...	12	0.440	0.410	170	<50	1	20	20	<0.5	<0.5	180
APR											
06...	17	0.260	0.120	2700	260	2	60	37	<0.5	<0.5	60
MAY											
04...	14	0.210	0.170	940	160	1	50	42	<0.5	<0.5	90
31...	15	0.200	0.120	3100	160	1	90	48	<0.5	<0.5	80
AUG											
01...	6.1	0.720	0.660	550	<50	2	50	49	<0.5	<0.5	310
31...	4.0	0.580	0.450	2100	70	2	50	29	<0.5	<0.5	190

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
OCT										
26...	620	<3	<3	<5	<5	<5	<5	<5	<5	540
NOV										
23...	80	<3	<3	9	<5	<5	<5	<5	<5	4500
JAN										
11...	--	<3	<3	<5	<5	<5	6	<5	<5	1500
FEB										
09...	180	<3	<3	<10	<10	<10	<10	<5	<5	220
APR										
06...	50	<3	<3	14	6	<5	<5	6	<5	3800
MAY										
04...	80	--	--	6	<5	<5	<5	7	<5	1100
31...	70	<3	<3	<5	<5	<5	<5	14	<5	5100
AUG										
01...	300	<3	<3	<5	<5	<5	<5	5	<5	740
31...	180	<3	<3	<5	<5	<5	<5	5	<5	3500

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
OCT										
26...	66	<5	<5	44	29	0.06	6	<5	<3	<3.0
NOV										
23...	<50	<5	<5	98	5	<0.05	<5	<5	<3	<3.0
JAN										
11...	<50	<5	<5	43	9	<0.05	<5	7	<3	<5.0
FEB										
09...	<50	<5	<5	49	15	<0.05	<10	<10	<10	<10
APR										
06...	<50	6	<5	140	8	<0.05	9	9	<3	<3.0
MAY										
04...	<50	<5	<5	53	9	0.08	8	--	<3	<3.0
31...	<50	9	<5	290	<5	0.10	5	<5	<3	<3.0
AUG										
01...	<50	<5	<5	55	10	0.07	6	6	<3	<3.0
31...	<50	5	<5	140	6	0.08	<5	<5	<3	<3.0

03339000 VERMILION RIVER NEAR DANVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
OCT										
26...	240	240	26	22	<50	<50	7.1	<0.005	<5	2
NOV										
23...	120	110	8	<5	120	<100	7.4	<0.005	<5	1
JAN										
11...	130	130	<5	<5	<50	<50	4.9	<0.005	<5	<1
FEB										
09...	190	190	<10	<10	<50	<50	3.3	<0.005	<5	1
APR										
06...	120	110	7	<5	<50	<50	5.6	<0.005	<5	1
MAY										
04...	140	140	9	6	<50	<50	3.1	<0.005	5	<1
31...	140	120	6	<5	<50	<50	5.3	<0.005	5	2
AUG										
01...	170	170	<5	<5	<50	<50	5.7	<0.005	15	--
31...	110	96	5	<5	420	160	9.2	<0.005	<5	--

03339147 LITTLE VERMILION RIVER NEAR GEORGETOWN, IL

LOCATION.--Lat 39°56'29", long 87°33'05", in SE1/4SW1/4 sec.12, T.17 N., R.11 W., Vermilion County, Hydrologic Unit 05120108, at bridge on county road, 0.5 mi downstream from Yankee Branch, 4.5 mi southeast of Georgetown, and at mile 21.9.

DRAINAGE AREA.--191 mi^2.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
25...	1400	17002	17002	74	476	7.60	8.0	8.2	9.1	27	800
NOV											
23...	0900	17002	17002	200	566	7.60	5.0	9.7	11.7	11	190
JAN											
11...	0900	17002	17002	253	631	7.70	2.5	9.2	14.2	6	<10
FEB											
08...	1500	17002	17002	130	662	8.20	0.0	0.30	15.6	4	--
APR											
05...	1400	17002	17002	670	589	7.70	11.0	25	9.1	13	500
MAY											
04...	0900	17002	17002	82	651	7.90	11.5	5.9	10.0	6	300
31...	0900	17002	17002	328	621	7.70	19.5	24	8.5	10	1200
AUG											
01...	0900	17002	17002	5.3	579	8.10	23.0	14	6.9	7	420
31...	0900	17002	17002	0.30	468	7.60	21.5	16	7.8	14	1300

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
OCT											
25...	230	65	52	51	25	24	17	17	3.7	3.7	162
NOV											
23...	300	130	75	74	30	29	6.5	6.9	1.3	1.4	172
JAN											
11...	320	130	76	76	32	31	6.2	6.1	0.6	0.50	190
FEB											
08...	340	120	80	81	34	34	7.6	7.6	0.5	0.47	219
APR											
05...	270	97	74	66	30	26	5.3	4.8	0.3	0.30	175
MAY											
04...	340	130	80	80	33	33	5.9	6.2	0.7	0.30	202
31...	310	120	79	77	28	28	5.4	5.3	0.9	0.71	186
AUG											
01...	290	89	69	68	31	30	7.9	7.8	1.6	1.1	205
31...	240	67	60	58	23	22	3.9	--	2.0	1.7	169

03339147 LITTLE VERMILION RIVER NEAR GEORGETOWN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
25...	55	27	275	--	--	0.530	<0.100	<0.001	0.540	0.470	170
NOV											
23...	48	25	288	36	5	10.0	<0.100	<0.001	0.140	0.080	1800
JAN											
11...	51	28	307	24	3	13.0	<0.100	<0.001	0.060	0.030	530
FEB											
08...	61	33	349	10	1	13.0	<0.100	<0.001	0.070	0.040	160
APR											
05...	47	26	275	80	8	16.0	0.120	0.001	0.100	0.020	1500
MAY											
04...	54	27	322	32	3	13.0	<0.100	<0.002	0.060	0.020	760
31...	40	23	286	70	7	15.0	0.110	0.002	0.110	0.070	1600
AUG											
01...	39	23	292	19	3	6.80	<0.100	<0.006	0.170	0.140	530
31...	28	12	--	68	6	5.60	<0.100	<0.002	0.160	0.100	1200

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
25...	<50	30	31	<0.5	<0.5	90	90	<3	<3	<5	<5
NOV											
23...	80	60	46	<0.5	<0.5	<50	<50	<3	<3	6	<5
JAN											
11...	80	50	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5
FEB											
08...	<50	40	40	<0.5	<0.5	<50	<50	<3	<3	<5	<5
APR											
05...	190	60	42	<0.5	<0.5	<50	<50	<3	<3	9	<5
MAY											
04...	200	50	48	<0.5	<0.5	<50	<50	--	--	<5	<5
31...	230	70	57	<0.5	<0.5	<50	<50	<3	<3	<5	<5
AUG											
01...	<50	60	53	<0.5	<0.5	60	60	<3	<3	7	<5
31...	60	60	43	<0.5	<0.5	<50	--	<3	<3	<5	<5

03339147 LITTLE VERMILION RIVER NEAR GEORGETOWN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)
OCT											
25...	<5	<5	<5	<5	350	66	<5	<5	86	61	0.05
NOV											
23...	<5	<5	<5	--	2000	<50	<5	<5	82	29	<0.05
JAN											
11...	<5	<5	15	<5	650	<50	<5	<5	39	22	<0.05
FEB											
08...	<5	<5	<5	<5	200	<50	<5	<5	37	23	<0.05
APR											
05...	<5	<5	<5	<5	1800	<50	<5	<5	87	13	<0.05
MAY											
04...	<5	<5	<5	<5	920	<50	<5	<5	67	30	0.07
31...	<5	<5	<5	<5	1700	<50	<5	<5	80	16	<0.05
AUG											
01...	<5	<5	<5	<5	620	<50	<5	<5	52	12	1.2
31...	<5	<5	<5	<5	1600	<50	<5	<5	89	12	0.05

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
25...	<5	<5	<3	<3.0	80	82	<5	<5	<50	<50	10
NOV											
23...	<5	<5	<3	<3.0	110	110	5	<5	190	<100	4.7
JAN											
11...	<5	<5	<3	<3.0	120	120	<5	<5	<50	<50	2.7
FEB											
08...	5	<5	<3	<3.0	120	120	<5	<5	<100	<100	4.4
APR											
05...	7	<5	<3	<3.0	110	100	<5	<5	<50	<50	4.2
MAY											
04...	12	<5	<3	<3.0	110	--	6	<5	<50	<50	2.9
31...	<5	<5	<3	<3.0	120	120	<5	<5	<50	<50	4.1
AUG											
01...	<5	<5	<3	<3.0	110	110	<5	<5	<50	<50	4.4
31...	<5	<5	<3	<3.0	80	--	<5	<5	150	140	6.1

03341414 BROUILLETTS CREEK NEAR ST. BERNICE, IN

LOCATION.--Lat 39°40'53", long 87°31'16", in SW1/4SW1/4 sec.3, T.14 N., R.10 W., Vermillion County, Hydrologic Unit 05120111, at bridge on State Highway 71, 1.9 mi south of St. Bernice, 2.2 mi downstream from Little Creek, 3.9 mi downstream from Crabapple Creek, and at mile 14.1.

DRAINAGE AREA.--260 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site BN 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
25...	1300	17002	17002	4.0	594	7.80	10.0	8.3	8.7	14	1800
NOV											
22...	1400	17002	17002	0.10	469	7.50	5.0	16	12.5	16	1600
JAN											
10...	1300	17002	17002	190	585	7.40	1.5	8.3	14.1	5	<10
FEB											
08...	1400	17002	17002	--	669	8.00	0.0	0.40	15.6	4	--
APR											
05...	1200	17002	17002	690	517	7.90	9.0	46	10.9	18	600
MAY											
03...	1300	17002	17002	181	619	8.00	13.5	9.1	10.3	6	380
30...	1300	17002	17002	--	552	7.80	20.0	62	8.1	15	1200
JUL											
31...	1300	17002	17002	40	649	8.00	25.0	4.8	8.3	6	600
AUG											
30...	1300	17002	17002	365	441	7.80	22.0	25	7.8	18	4000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT											
25...	320	91	--	76	76	31	31	11	11	3.1	3.1
NOV											
22...	230	100	--	62	57	23	21	5.6	5.1	1.8	1.4
JAN											
10...	280	120	--	69	69	28	27	5.6	5.6	0.7	0.63
FEB											
08...	330	130	--	81	80	33	32	8.5	8.2	0.7	0.56
APR											
05...	240	110	--	78	60	31	23	4.8	4.5	1	0.96
MAY											
03...	320	130	<1.0	78	77	31	30	5.7	5.6	0.6	0.60
30...	270	110	--	72	69	24	23	4.7	4.6	1.4	0.57
JUL											
31...	340	98	--	82	82	34	33	7.1	7.1	1.6	1.3
AUG											
30...	230	78	--	57	56	21	21	4.1	4.1	2.0	1.9

03341414 BROUILLETTS CREEK NEAR ST. BERNICE, IN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)
OCT 25...	227	85	18	361	--	--	0.310	<0.100	<0.001	0.090	0.050
NOV 22...	129	44	22	228	59	9	8.80	<0.100	<0.001	0.200	0.110
JAN 10...	163	49	29	278	30	5	13.0	<0.100	<0.001	0.080	0.050
FEB 08...	206	64	34	342	5	1	12.0	<0.100	<0.001	0.030	0.020
APR 05...	136	43	26	239	172	15	14.0	0.120	0.002	0.230	0.080
MAY 03...	186	52	28	305	27	2	13.0	<0.100	<0.002	0.066	0.020
30...	162	41	22	258	88	11	12.0	<0.100	<0.003	0.160	0.070
JUL 31...	243	44	24	338	6	1	6.80	<0.100	<0.006	0.070	0.040
AUG 30...	149	29	15	217	58	4	5.30	<0.100	<0.003	0.230	0.140

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT 25...	250	<50	50	50	<0.5	<0.5	70	--	<3	<3	<5
NOV 22...	2700	<50	70	40	<0.5	<0.5	<50	<50	<3	<3	<5
JAN 10...	740	<50	60	49	<0.5	<0.5	<50	<50	<3	<3	<5
FEB 08...	130	<50	50	44	<0.5	<0.5	<50	<50	<3	<3	<5
APR 05...	3000	180	80	43	<0.5	<0.5	<50	<50	<3	<3	10
MAY 03...	560	150	50	44	<0.5	<0.5	<50	<50	--	--	8
30...	3000	310	80	56	<0.5	<0.5	<50	<50	<3	<3	<5
JUL 31...	400	100	70	--	<0.5	<0.5	<50	<50	<3	20	5
AUG 30...	1700	70	60	45	<0.5	<0.5	<50	<50	<3	<3	<5

03341414 BROUILLETTS CREEK NEAR ST. BERNICE, IN--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT											
25...	<5	<5	<5	<5	<5	560	64	<5	<5	250	220
NOV											
22...	<5	<5	<5	8	<5	2800	<50	<5	<5	89	15
JAN											
10...	<5	<5	<5	<5	<5	930	<50	<5	<5	43	11
FEB											
08...	<5	<5	<5	15	<5	180	<50	<5	<5	36	27
APR											
05...	<5	<5	<5	<5	<5	3900	<50	6	<5	190	7
MAY											
03...	7	<5	<5	<5	<5	610	<50	<5	<5	42	14
30...	<5	<5	<5	<5	<5	3200	<50	<5	<5	120	12
JUL											
31...	<5	<5	<5	<5	28	470	100	<5	<5	58	28
AUG											
30...	<5	<5	<5	<5	<5	2500	<50	15	<5	130	6

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT											
25...	0.56	17	<5	<3	<3.0	110	110	<5	<5	<50	<50
NOV											
22...	<0.05	<5	<5	<3	<3.0	90	83	<5	<5	<50	<50
JAN											
10...	<0.05	<5	<5	<3	<3.0	110	110	<5	<5	<50	<50
FEB											
08...	<0.05	<5	<5	<3	<3.0	130	120	<5	<5	120	<50
APR											
05...	<0.05	10	<5	<3	<3.0	110	93	<5	<5	<50	<50
MAY											
03...	0.07	6	<5	<3	<3.0	110	110	5	<5	<50	<50
30...	<0.05	<5	<5	<3	<3.0	110	110	6	<5	<50	<50
JUL											
31...	<0.05	<5	--	<3	<3.0	130	120	<5	<5	<50	<50
AUG											
30...	<0.05	16	15	<3	<3.0	80	78	<5	<5	<100	<100

WABASH RIVER BASIN

03341540 SUGAR CREEK NEAR ELBRIDGE, IL

LOCATION.--Lat 39°29'53", long 87°33'11", in NW1/4SW1/4 sec.8, T.12 N., R.10 W., Edgar County, Hydrologic Unit 05120111, at bridge on county road, 1.0 mi southeast of Elbridge, 2.3 mi upstream from Illinois-Indiana State line, 4.9 mi upstream from Little Sugar Creek, and at mile 10.1.

DRAINAGE AREA.--61.0 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
25...	1100	17002	17002	26	653	7.70	8.0	9.1	9.3	27	1700
NOV											
22...	1200	17002	17002	104	453	7.50	6.0	3.7	12.5	15	2100
JAN											
10...	1100	17002	17002	94	540	7.40	1.0	7.3	14.3	7	1900
FEB											
08...	1200	17002	17002	--	643	7.90	0.0	2.2	16.8	9	--
APR											
05...	1100	17002	17002	259	505	7.80	9.5	29	11.0	20	--
MAY											
03...	1100	17002	17002	77	551	7.90	13.0	9.1	10.0	12	2900
30...	1100	17002	17002	63	537	7.80	20.5	44	8.3	12	630
JUL											
31...	1100	17002	17002	29	600	8.50	22.5	2.0	8.1	6	210
AUG											
30...	1100	17002	17002	125	408	7.90	23.5	10	7.8	15	7600

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
25...	270	270	65	67	25	25	35	36	9.4	9.6	46
NOV											
22...	210	210	51	49	23	22	9.8	9.7	2.4	2.1	28
JAN											
10...	250	250	63	62	25	24	11	10	1.8	1.7	27
FEB											
08...	260	260	76	64	29	25	15	13	2.0	1.6	34
APR											
05...	210	210	66	52	25	20	8.3	7.0	2.1	1.6	25
MAY											
03...	280	280	68	69	32	25	8.7	8.5	2.3	2.1	22
30...	230	230	75	62	23	19	7.9	7.3	2.3	2.0	19
JUL											
31...	300	300	77	75	28	27	11	11	2.3	2.5	20
AUG											
30...	200	200	50	48	20	19	6.6	6.6	1.5	2.4	15

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)
OCT											
25...	--	--	1.20	0.330	0.003	0.870	0.820	130	<50	40	40
NOV											
22...	41	5	2.80	0.250	0.001	0.212	0.130	1300	70	50	38
JAN											
10...	19	4	5.00	0.270	<0.001	0.160	0.100	560	50	60	49
FEB											
08...	8	2	5.20	<0.100	<0.001	0.207	0.156	110	<50	50	36
APR											
05...	173	15	6.00	0.180	0.002	0.260	0.060	2600	230	80	41
MAY											
03...	56	5	5.60	0.250	0.005	0.443	0.100	1400	140	70	49
30...	69	5	5.80	<0.100	<0.003	0.211	0.110	1900	200	80	55
JUL											
31...	5	1	3.40	<0.100	<0.014	0.157	0.157	180	50	60	62
AUG											
30...	79	8	1.70	<0.100	<0.004	0.210	0.110	1100	60	60	42

DATE	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)
OCT										
25...	<0.5	<0.5	190	--	<3	<3	<5	<5	<5	<5
NOV										
22...	<0.5	<0.5	90	90	<3	<3	<5	<5	<5	<5
JAN										
10...	<0.5	<0.5	80	80	<3	<3	<5	<5	<5	<5
FEB										
08...	<0.5	<0.5	90	80	<3	<3	<5	<5	<5	<5
APR										
05...	<0.5	<0.5	70	60	<3	<3	15	<5	<5	<5
MAY										
03...	<0.5	<0.5	70	70	--	--	9	7	6	<5
30...	<0.5	<0.5	80	70	<3	<3	<5	<5	<5	<5
JUL										
31...	<0.5	<0.5	100	90	<3	<3	7	<5	<5	<5
AUG										
30...	<0.5	<0.5	80	80	<3	<3	<5	<5	<5	<5

03341540 SUGAR CREEK NEAR ELBRIDGE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT										
25...	<5	<5	240	71	<5	<5	53	44	0.09	<5
NOV										
22...	5	<5	1400	<50	<5	<5	92	25	<0.05	<5
JAN										
10...	<5	<5	710	<50	<5	<5	58	31	--	<5
FEB										
08...	<5	<5	190	<50	<5	<5	83	61	<0.05	<5
APR										
05...	7	<5	3600	<50	6	<5	220	13	0.06	8
MAY										
03...	9	<5	2800	<50	<5	<5	250	25	0.08	7
30...	<5	<5	2500	<50	<5	<5	150	6	<0.05	<5
JUL										
31...	5	<5	190	<50	<5	<5	33	20	0.05	<5
AUG										
30...	9	<5	1600	<50	9	<5	130	6	0.13	19

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT										
25...	<5	<3	<3.0	100	--	<5	<5	<50	<50	12
NOV										
22...	<5	<3	<3.0	100	91	<5	<5	<50	<50	5.3
JAN										
10...	5	<3	<3.0	120	110	<5	<5	<50	<50	5.5
FEB										
08...	<5	<3	<3.0	130	110	<5	<5	<50	<50	3.7
APR										
05...	5	<3	<3.0	110	88	5	<5	<50	<50	6.7
MAY										
03...	5	<3	<3.0	120	110	7	<5	<50	<50	4.1
30...	<5	<3	<3.0	120	100	<5	<5	<50	<50	5.3
JUL										
31...	<5	<3	<3.0	120	120	<5	<5	<50	<50	--
AUG										
30...	5	<3	<3.0	80	80	<5	<5	<100	<100	5.5

03343395 EMBARRAS RIVER AT CAMARGO, IL

LOCATION.--Lat 39°47'59", long 88°10'13", in NW1/4 sec.34, T.16 N., R.9 E., Douglas County, Hydrologic Unit 05120112, at bridge on county road, 0.4 mi west of Camargo, 3.2 mi downstream from Jordan Slough, 7.0 mi upstream from Scattering Fork, and at mile 168.1.

DRAINAGE AREA.--180 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year.

REMARKS.--Water discharges were determined from Embarras River near Camargo (station 03343400).

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
31...	1000	17002	17002	16	559	7.30	5.0	10	8.3	15	K30
DEC											
08...	0930	17002	17002	17	656	7.80	4.0	2.8	12.5	<1	120
JAN											
11...	1000	17002	17002	300	591	7.80	4.0	0.30	12.7	4	230
FEB											
21...	1000	17002	17002	140	592	8.10	4.0	3.6	13.1	4	270
MAR											
29...	1000	17002	17002	109	626	8.10	13.0	3.6	10.2	5	370
MAY											
08...	1000	17002	17002	123	628	8.20	12.0	3.9	10.4	5	240
JUN											
15...	1200	17002	17002	89	657	7.90	20.0	2.5	7.8	11	820
JUL											
24...	1000	17002	17002	27	550	7.60	24.5	28	6.7	20	K300
AUG											
29...	0930	17002	17002	362	282	7.20	22.0	72	5.6	33	3300

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
OCT											
31...	240	55	58	56	25	24	26	24	3.9	3.6	184
DEC											
08...	340	130	81	81	33	33	10	10	0.9	0.84	213
JAN											
11...	270	120	66	65	28	27	6.4	6.5	0.6	0.50	156
FEB											
21...	290	130	71	68	30	28	8.2	7.8	0.7	0.56	155
MAR											
29...	310	140	74	73	31	31	7.1	7.2	0.5	0.30	170
MAY											
08...	300	130	74	71	31	30	6.4	6.1	1.2	0.71	168
JUN											
15...	310	130	80	74	33	30	7.7	7.1	0.3	0.30	181
JUL											
24 ..	270	96	68	65	27	25	8.2	8.0	1.3	1.1	174
AUG											
29...	120	48	36	31	14	11	3.7	3.8	3.6	2.5	75

03343395 EMBARRAS RIVER AT CAMARGO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT 31...	64	35	317	2	<1	1.20	<0.100	<0.001	0.140	0.100	240
DEC 08...	68	32	353	4	1	9.20	<0.100	<0.001	0.050	0.040	260
JAN 11...	49	32	274	16	2	15.0	<0.100	<0.001	0.070	0.050	560
FEB 21...	48	33	279	11	2	14.0	<0.100	<0.002	0.040	0.030	360
MAR 29...	53	34	301	27	5	14.8	<0.100	<0.003	0.040	0.020	880
MAY 08...	48	31	288	28	3	16.0	0.150	0.005	0.060	0.030	720
JUN 15...	49	31	301	59	7	16.0	<0.100	<0.003	0.111	0.050	3200
JUL 24...	39	21	265	70	10	8.70	<0.100	<0.002	0.130	0.080	2000
AUG 29...	26	10	129	142	10	3.40	<0.100	<0.001	0.239	0.170	3600

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT 31...	<50	50	48	<0.5	<0.5	90	80	<3	<3	<5	<5
DEC 08...	<50	50	52	<0.5	<0.5	<50	50	<3	<3	<5	<5
JAN 11...	50	50	46	<0.5	<0.5	<50	<50	<3	<3	<5	<5
FEB 21...	60	40	35	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR 29...	100	50	48	<0.5	<0.5	<50	<50	<3	<3	5	<5
MAY 08...	50	50	43	<0.5	<0.5	<50	<50	--	--	5	<5
JUN 15...	1200	80	56	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JUL 24...	<50	80	56	<0.5	<0.5	<50	<50	<3	<3	<5	<5
AUG 29...	<50	70	30	<0.5	<0.5	<50	<50	<3	<3	<5	<5

03343395 EMBARRAS RIVER AT CAMARGO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 31...	<5	<5	<5	<5	380	63	<5	<5	56	48	<0.05
DEC 08...	<5	<5	<5	<5	320	<50	<5	<5	30	21	0.13
JAN 11...	<5	<5	<5	<5	640	<50	<5	<5	18	<5	0.06
FEB 21...	<5	<5	<5	<5	380	<50	<5	<5	20	8	<0.05
MAR 29...	<5	<5	<5	<5	900	<50	<5	<5	29	7	<0.05
MAY 08...	<5	<5	<5	<5	770	<50	<5	<5	42	16	0.06
JUN 15...	<5	<5	<5	<5	2500	<50	<5	<5	75	23	<0.05
JUL 24...	<5	<5	<5	<5	2300	<50	<5	<5	100	41	<0.05
AUG 29...	<5	<5	6	<5	4800	88	6	<5	160	22	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 31...	<5	<5	<3	<3.0	150	140	21	--	220	<50
DEC 08...	<5	<5	<3	<3.0	160	150	<5	<5	<50	<50
JAN 11...	<5	<5	<3	<3.0	140	140	<5	<5	<50	<50
FEB 21...	<5	<5	<3	<3.0	140	130	<5	<5	<50	<50
MAR 29...	<5	<5	<3	<3.0	160	160	<5	<5	<50	<50
MAY 08...	<5	5	<3	<3.0	140	140	<5	<5	<50	<50
JUN 15...	<5	<5	<3	<3.0	150	140	<5	<5	<50	<50
JUL 24...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50
AUG 29...	<10	<10	<3	<3.0	70	56	8	<5	<100	<100

03343400 EMBARRAS RIVER NEAR CAMARGO, IL

LOCATION.--Lat 39°47'30", long 88°11'10", in NE1/4NW1/4 sec.3, T.15 N., R.9 E., Douglas County, Hydrologic Unit 05120112, on left bank at downstream side of bridge on U.S. Highway 36, 2.0 mi southwest of Camargo and at mile 166.5.

DRAINAGE AREA.--186 mi^2.

PERIOD OF RECORD.--October 1960 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.30 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Gage-height telemeter at station.

AVERAGE DISCHARGE.--29 years, 158 ft^3/s, 11.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,240 ft^3/s, Mar. 4, 1979, gage height, 16.38 ft; maximum gage height, 16.72 ft, June 23, 1974; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 26	1730	*3,370	*13.92	Sept. 10	0700	1,910	11.60

No flow Oct. 15-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	16	47	149	e100	83	88	586	310	36	3.9	578
2	1.3	16	41	119	e70	78	107	394	258	32	2.8	518
3	.96	16	39	104	e50	82	431	272	224	31	2.5	584
4	.69	19	37	92	e35	134	910	210	307	30	2.3	371
5	.49	30	33	84	e30	216	903	195	477	26	2.6	143
6	.47	45	e25	169	e30	154	661	165	277	22	2.5	79
7	.59	38	e20	341	e30	e110	503	136	186	20	2.1	54
8	.62	30	e17	661	e31	e110	466	123	158	19	2.5	101
9	.71	36	e16	e570	e31	129	535	155	142	18	1.9	1080
10	.75	180	e15	e400	e32	197	518	275	123	16	1.5	1810
11	e.50	223	e15	299	e32	385	396	269	109	14	1.4	1370
12	e.30	103	e15	239	e33	462	309	202	110	13	1.2	873
13	e.18	73	e15	227	e34	362	248	170	113	12	1.2	565
14	e.11	74	e16	196	e35	275	206	145	97	11	.98	446
15	e.00	58	e17	174	e32	218	190	126	89	8.6	1.5	562
16	e.00	59	e12	142	e31	151	168	115	84	7.0	.76	599
17	e.00	129	e10	131	e30	132	153	104	79	6.4	.21	463
18	e.00	87	e10	126	e40	125	136	97	75	5.3	.09	291
19	2.0	54	e11	117	e50	99	126	212	73	11	.34	192
20	15	102	e14	110	e70	126	116	594	73	20	.39	145
21	14	345	e17	93	e140	248	111	705	67	34	.79	115
22	11	413	22	91	e120	257	107	593	64	44	2.0	96
23	11	259	114	90	e110	200	124	486	60	46	11	83
24	12	149	252	84	e100	168	141	411	73	27	37	64
25	17	110	169	80	116	149	124	699	98	23	28	59
26	25	90	97	133	124	128	112	2880	66	32	18	57
27	21	82	112	255	113	117	112	2470	65	22	19	48
28	19	67	334	234	99	113	155	1330	127	15	187	43
29	18	56	430	186	---	109	532	806	65	10	412	43
30	17	51	320	167	---	103	747	567	42	6.2	829	40
31	16	---	208	150	---	100	---	415	---	4.6	868	---
TOTAL	206.61	3010	2500	6013	1748	5320	9435	15907	4091	622.1	2444.46	11472
MEAN	6.66	100	80.6	194	62.4	172	314	513	136	20.1	78.9	382
MAX	25	413	430	661	140	462	910	2880	477	46	868	1810
MIN	.00	16	10	80	30	78	88	97	42	4.6	.09	40
CFSM	.04	.54	.43	1.04	.34	.92	1.69	2.76	.73	.11	.42	2.06
IN.	.04	.60	.50	1.20	.35	1.06	1.89	3.18	.82	.12	.49	2.29

CAL YR 1988 TOTAL 35463.29 MEAN 96.9 MAX 976 MIN .00 CFSM .52 IN. 7.09
WTR YR 1989 TOTAL 62769.17 MEAN 172 MAX 2880 MIN .00 CFSM .92 IN. 12.55

e Estimated

03344000 EMBARRAS RIVER NEAR DIONA, IL

LOCATION.--Lat 39°20'40", long 88°10'15", in NE1/4NW1/4 sec.2, T.10 N., R.9 E., Cumberland County, Hydrologic Unit 05120112, on downstream side of Ryans Bridge, 2.8 mi southwest of Diona, 7 mi downstream from Indian Creek, 9 mi upstream from Hurricane Creek, and at mile 103.7.

DRAINAGE AREA.--919 mi^2.

PERIOD OF RECORD.--Water years 1971-76, 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site BE 09.

REMARKS.--Water-discharge records from Embarras River at Ste. Marie (station 03345500) were used to estimate discharges for this station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
27...	1030	17002	17002	18	602	7.80	8.0	6.1	12.3	15	K150
DEC											
06...	1030	17002	17002	128	649	7.70	4.0	5.0	14.0	8	K50
JAN											
09...	1030	17002	17002	2110	497	7.80	4.0	82	13.8	8	K180
FEB											
09...	1030	17002	17002	250	699	8.50	0.0	1.6	15.8	5	<2
MAR											
21...	1000	17002	17002	1800	461	8.10	5.0	140	12.4	34	K600
MAY											
01...	1030	17002	17002	3110	476	7.90	15.0	14	9.9	22	K700
JUN											
01...	1000	17002	17002	2420	529	7.50	22.5	23	7.6	16	K100
JUL											
19...	1000	17002	17002	141	608	8.00	24.0	12	8.0	13	K100
AUG											
23...	1000	17002	17002	118	558	7.60	25.5	29	6.0	21	K500

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT											
27...	220	220	50	49	23	23	38	39	5.0	5.0	54
DEC											
06...	320	320	78	76	31	31	14	14	1.5	1.4	--
JAN											
09...	220	220	59	52	25	21	7.8	7.2	2.0	1.2	28
FEB											
09...	340	340	80	81	33	33	13	15	0.8	0.93	38
MAR											
21...	190	190	59	48	23	18	6.7	6.9	2.0	1.3	23
MAY											
01...	220	220	58	53	23	21	5.4	5.1	2.5	1.4	21
JUN											
01...	250	250	64	61	25	24	5.9	5.7	1.4	1.5	20
JUL											
19...	300	300	72	71	30	29	9.7	9.8	1.7	1.5	28
AUG											
23...	260	260	64	60	28	27	16	16	3.4	2.2	27

03344000 EMBARRAS RIVER NEAR DIONA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT 27...	1	1	3.60	<0.100	<0.001	--	1.0	4.6	1.50	1.40	90
DEC 06...	7	2	7.70	0.120	<0.001	0.28	0.40	8.1	0.220	0.200	340
JAN 09...	142	17	10.0	0.140	0.001	1.5	1.6	12	0.270	0.130	4700
FEB 09...	2	1	11.0	0.100	0.003	0.10	0.20	11	0.120	0.110	110
MAR 21...	317	21	8.60	0.270	0.004	1.5	1.8	10	0.370	0.110	4600
MAY 01...	148	18	11.0	0.200	0.004	0.90	1.1	12	0.270	0.130	3800
JUN 01...	95	10	12.0	<0.100	<0.002	--	1.2	13	0.200	0.120	3600
JUL 19...	46	6	6.20	<0.100	<0.005	--	0.90	7.1	0.180	0.130	1000
AUG 23...	86	9	1.10	<0.100	<0.002	--	0.60	1.7	0.330	0.260	1400

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT 27...	<50	30	30	<0.5	<0.5	120	120	<3	<3	<5	<5
DEC 06...	<50	50	45	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JAN 09...	60	90	44	<0.5	<0.5	<50	<50	<3	<3	7	<5
FEB 09...	<50	30	26	<0.5	<0.5	70	--	<3	<3	<5	<5
MAR 21...	<50	50	<5	<0.5	<0.5	<50	<50	<3	<3	6	<5
MAY 01...	110	80	40	<0.5	<0.5	<50	<50	--	--	9	6
JUN 01...	1100	80	57	<0.5	<0.5	<50	<50	<3	<3	6	<5
JUL 19...	110	70	59	<0.5	<0.5	<50	<50	<3	<3	<5	<5
AUG 23...	<50	70	52	<0.5	<0.5	<50	<50	<3	<3	<5	<5

03344000 EMBARRAS RIVER NEAR DIONA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 27...	<5	<5	<5	<5	160	120	<5	<5	43	36	<0.05
DEC 06...	<5	<5	<5	<5	280	<50	<5	<5	34	20	<0.05
JAN 09...	<5	<5	7	<5	5700	<50	<5	<5	170	<5	<0.05
FEB 09...	<5	<5	<5	<5	120	<50	<5	<5	21	14	<0.05
MAR 21...	<5	<5	<5	<5	5900	<50	8	<5	310	14	<0.05
MAY 01...	<5	<5	5	<5	4500	<50	<5	<5	120	<5	<0.05
JUN 01...	<5	<5	7	<5	3300	<50	<5	<5	96	<5	<0.05
JUL 19...	<5	<5	<5	<5	1200	<50	<5	<5	95	9	<0.05
AUG 23...	<5	<5	<5	<5	1900	82	<5	<5	220	15	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 27...	<10	<10	<3	<3.0	100	100	150	--	<50	<50	7.4
DEC 06...	8	<5	<3	<3.0	140	140	<5	<5	<50	<50	4.0
JAN 09...	8	<5	<3	<3.0	120	110	11	<5	<50	<50	7.9
FEB 09...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50	2.5
MAR 21...	<5	<5	<3	<3.0	90	77	<5	<5	<50	<50	8.8
MAY 01...	8	<5	<3	<3.0	100	96	10	<5	<50	<50	7.7
JUN 01...	<5	<5	<3	<3.0	120	110	8	<5	<50	<50	5.1
JUL 19...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50	4.8
AUG 23...	<5	--	<3	<3.0	120	120	<5	<5	<50	<50	7.3

03345500 EMBARRAS RIVER AT STE. MARIE, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°56'10", long 88°01'10", in NW1/4NW1/4 sec.30, T.6 N., R.14 W., Jasper County, Hydrologic Unit 05120112, on right bank at upstream side of highway bridge at Ste. Marie and at mile 48.2.

DRAINAGE AREA.--1,516 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1909 to December 1912, August 1914 to current year.

REVISED RECORDS.--WSP 1083: 1934. WSP 1113: 1910-31, 1933, 1939-40, 1945(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 445.75 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to June 29, 1940, nonrecording gage and June 29, 1940, to Jan. 24, 1967, water-stage recorder at same site at datum 1.00 ft higher.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--78 years, 1,227 ft^3/s, 10.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,800 ft^3/s, Jan. 4, 1950, gage height, 25.95 ft, present datum, from rating curve extended above 29,000 ft^3/s; maximum gage height, 26.54 ft, present datum, June 30, 1957; minimum discharge, 1 ft^3/s, Oct. 5-9, 1914.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	2215	7,180	17.12	Sept. 17	1800	*14,900	*20.98
Apr. 4	1945	8,280	17.35				

Minimum daily discharge, 9.0 ft^3/s, Oct. 12-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e15	e16	463	e450	958	712	2370	3940	5590	606	305	2270
2	e20	e15	421	e400	885	659	1490	3220	3210	543	286	2160
3	e16	e15	361	e350	1010	623	5330	3020	2200	488	255	1880
4	e15	e100	328	e300	914	702	7890	2680	1900	464	238	1730
5	e14	e500	307	e350	731	809	7920	2310	1940	548	229	1380
6	e13	e400	284	1200	e500	761	7080	1900	1500	469	418	1020
7	e12	e300	275	e1800	e420	779	4370	1540	1270	421	323	773
8	e11	e250	266	e2000	e350	807	4400	1340	1210	375	276	584
9	e10	e200	261	e2200	e300	812	4870	1210	1070	345	e200	1730
10	e10	e350	225	2000	e280	1060	3650	1300	894	318	e150	4840
11	e10	e300	e200	1880	e300	2300	2930	1320	795	401	e110	5780
12	e9.0	e250	e180	1810	e400	2350	2580	1270	722	383	e80	6130
13	e9.0	e200	e160	1570	580	2540	2240	1260	661	494	e60	5990
14	e9.0	e220	e150	1270	586	2420	1900	1170	620	307	e45	6730
15	e9.0	e400	e140	1100	607	2220	1610	1060	595	235	e28	8480
16	e9.0	751	e130	1020	716	1920	1430	958	560	218	e25	11000
17	e9.0	820	e120	937	860	1560	1290	872	521	201	41	13800
18	e9.0	586	e110	848	790	1260	1190	803	488	193	e30	11300
19	e9.0	518	e100	785	745	1080	1130	846	463	190	e24	3710
20	e9.0	871	e100	746	736	2960	1060	1860	439	189	e20	2130
21	e15	1070	e90	708	1030	6750	965	2350	423	1380	e18	1640
22	e25	953	e90	675	e1400	6170	897	1950	403	1450	43	1350
23	e30	913	e100	621	e1200	2890	858	2500	392	588	72	1140
24	35	937	e150	582	1070	2020	1680	2600	500	501	189	991
25	e30	926	e350	585	960	1690	1860	2400	457	543	109	882
26	e26	811	e250	711	869	1440	1590	5110	405	506	118	796
27	e24	686	e200	1020	815	1260	1410	4960	489	464	101	716
28	e22	574	e200	1060	769	1120	2430	4380	534	447	234	659
29	e20	511	e400	1160	---	1040	3600	4730	679	398	1120	603
30	e18	488	e800	1190	---	1850	4020	5300	704	345	1550	549
31	e17	---	e600	1070	---	3650	---	5890	---	300	2440	---
TOTAL	489.0	14931	7811	32398	20781	58214	86040	76049	31634	14310	9137	102743
MEAN	15.8	498	252	1045	742	1878	2868	2453	1054	462	295	3425
MAX	35	1070	800	2200	1400	6750	7920	5890	5590	1450	2440	13800
MIN	9.0	15	90	300	280	623	858	803	392	189	18	549
CFSM	.01	.33	.17	.69	.49	1.24	1.89	1.62	.70	.30	.19	2.26
IN.	.01	.37	.19	.79	.51	1.43	2.11	1.87	.78	.35	.22	2.52

CAL YR 1988 TOTAL 339870.0 MEAN 929 MAX 15700 MIN 9.0 CFSM .61 IN. 8.34
WTR YR 1989 TOTAL 454537.0 MEAN 1245 MAX 13800 MIN 9.0 CFSM .82 IN. 11.15

e Estimated

03345500 EMBARRAS RIVER AT STE. MARIE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site BE 07.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT											
24...	1100	17002	17002	35	--	--	540	7.70	9.0	4.1	11.1
24...	1130	81700	17002	35	--	--	533	7.70	8.5	2.1	10.8
NOV											
17...	1115	81700	80020	852	--	--	302	7.00	9.0	370	9.5
17...	1130	81700	17002	852	--	--	302	7.00	9.0	6.7	9.5
JAN											
10...	1100	81700	80020	2010	--	--	472	7.50	2.5	140	12.8
10...	1115	81700	17002	2010	--	--	472	7.50	2.5	73	12.8
FEB											
24...	1030	81700	80020	1070	--	--	643	7.80	1.5	24	13.3
24...	1045	81700	17002	1070	--	--	643	7.80	1.5	25	13.3
APR											
13...	1100	81700	80020	2320	--	--	529	7.40	9.0	30	10.2
13...	1115	81700	17002	2320	--	--	529	7.40	9.0	15	10.2
MAY											
17...	1030	17002	17002	917	--	--	645	8.00	17.5	10	9.2
17...	1045	81700	17002	917	--	--	634	7.90	17.5	13	9.0
22...	1300	81700	80020	--	--	--	540	7.50	17.5	--	10.1
JUL											
12...	1300	81700	80020	365	--	--	506	8.20	29.5	31	6.7
12...	1301	81700	81700	--	1.00	91.0	503	8.20	29.5	--	5.3
12...	1302	81700	81700	--	1.00	78.0	506	8.20	29.5	--	6.3
12...	1303	81700	81700	--	1.00	65.0	506	8.20	29.5	--	6.6
12...	1304	81700	81700	--	1.00	52.0	506	8.20	29.5	--	6.7
12...	1305	81700	81700	--	1.00	39.0	507	8.20	29.5	--	7.3
12...	1306	81700	81700	--	1.00	26.0	507	8.20	29.5	--	7.3
12...	1307	81700	81700	--	1.00	13.0	507	8.20	29.5	--	7.4
12...	1330	81700	17002	365	--	--	506	8.20	29.5	2.7	6.7
AUG											
30...	1000	81700	80020	1470	--	--	183	7.20	24.0	260	5.2
30...	1030	81700	17002	1470	--	--	183	7.20	24.0	150	5.2

03345500 EMBARRAS RIVER AT STE. MARIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)
OCT											
24...	14	>4000	--	--	240	240	55	54	27	26	23
24...	13	K9400	K10000	--	230	230	51	51	26	26	23
NOV											
17...	--	3100	2900	K20000	120	33	--	30	--	11	--
17...	60	3100	2900	K20000	110	110	39	28	15	10	12
JAN											
10...	--	400	510	9700	220	99	--	53	--	22	--
10...	24	400	510	9700	210	210	58	50	23	20	9.2
FEB											
24...	--	140	180	220	300	120	--	73	--	29	--
24...	10	140	180	220	300	300	72	71	29	29	12
APR											
13...	--	96	93	190	290	120	--	69	--	28	--
13...	10	96	93	190	270	270	69	66	28	26	8.4
MAY											
17...	9	K100	--	--	320	320	78	76	32	31	9.4
17...	10	K100	--	--	320	320	78	77	32	32	9.4
22...	--	--	--	--	--	--	--	--	--	--	-
JUL											
12...	--	210	310	K40	260	84	--	58	--	29	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	23	210	310	K40	280	280	67	61	31	30	11
AUG											
30...	--	5500	3800	2100	69	8	--	19	--	5.2	--
30...	47	5500	3800	2100	71	71	24	19	8.3	5.7	4.7

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
OCT											
24...	23	2.7	2.5	--	--	--	--	--	--	36	--
24...	24	2.0	2.0	--	--	--	--	--	--	35	--
NOV											
17...	12	--	4.6	0	89	73	--	87	32	17	0.20
17...	11	5.7	3.3	--	--	--	--	--	--	19	--
JAN											
10...	9.2	--	2.5	0	153	125	124	143	40	28	0.20
10...	8.5	1.8	1.3	--	--	--	--	--	--	29	--
FEB											
24...	12	--	1.4	0	226	185	--	180	51	32	0.20
24...	12	1.3	1.2	--	--	--	--	--	--	33	--
APR											
13...	8.4	--	1.4	0	206	169	169	168	44	26	0.20
13...	8.1	1.3	1.3	--	--	--	--	--	--	25	--
MAY											
17...	9.3	1.1	1.0	--	--	--	--	--	--	31	--
17...	9.5	1.2	0.78	--	--	--	--	--	--	29	--
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
12...	10	--	1.6	24	172	181	181	181	41	27	0.30
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	11	1.1	1.1	--	--	--	--	--	--	31	--
AUG											
30...	4.9	--	6.3	0	72	59	--	61	12	9.5	0.30
30...	4.9	7.2	5.5	--	--	--	--	--	--	11	--

03345500 EMBARRAS RIVER AT STE. MARIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT											
24...	--	--	--	14	3	0.300	--	<0.100	<0.001	--	--
24...	--	--	--	14	4	<0.100	--	<0.100	<0.001	--	--
NOV											
17...	6.5	175	175	--	--	--	1.90	0.130	--	0.150	3.0
17...	--	--	--	141	18	2.10	--	0.110	<0.001	--	--
JAN											
10...	7.6	305	262	--	--	--	5.60	0.150	--	0.080	0.65
10...	--	--	--	216	14	8.80	--	<0.100	<0.001	--	--
FEB											
24...	5.6	361	354	--	--	--	9.30	0.050	--	0.050	1.2
24...	--	--	--	62	5	9.90	--	<0.100	<0.001	--	--
APR											
13...	8.2	343	340	--	--	--	12.0	0.040	--	0.030	1.4
13...	--	--	--	76	6	13.0	--	0.110	<0.001	--	--
MAY											
17...	--	--	--	60	6	12.0	--	<0.100	<0.003	--	--
17...	--	--	--	60	6	12.0	--	<0.100	<0.003	--	--
22...	--	--	--	--	--	--	11.0	--	--	--	--
JUL											
12...	6.1	338	312	--	--	--	6.80	0.077	--	0.077	1.6
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	147	20	7.00	--	<0.100	<0.012	--	--
AUG											
30...	5.6	111	104	--	--	--	0.790	0.110	--	0.110	0.69
30...	--	--	--	615	45	0.760	--	0.130	0.001	--	--

DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)
OCT											
24...	--	0.180	0.070	420	<50	--	50	47	<0.5	<0.5	50
24...	--	0.174	0.130	520	80	--	50	44	<0.5	<0.5	<50
NOV											
17...	3.1	0.800	0.250	--	160	1	--	38	--	<0.5	--
17...	--	0.430	0.260	15000	320	--	200	36	<1.0	<0.5	60
JAN											
10...	0.80	0.190	0.120	--	--	--	--	--	--	--	--
10...	--	0.490	0.120	3800	60	--	100	46	<0.5	<0.5	<50
FEB											
24...	1.3	0.160	0.090	--	20	<1	--	47	--	<0.5	--
24...	--	0.140	0.080	860	70	--	50	45	<0.5	<0.5	<50
APR											
13...	1.4	0.090	0.070	--	20	<1	--	59	--	<0.5	--
13...	--	0.170	0.080	1700	190	--	70	62	<0.5	<0.5	<50
MAY											
17...	--	0.124	0.080	1300	110	--	70	56	<0.5	<0.5	<50
17...	--	0.120	0.060	1300	110	--	70	57	<0.5	<0.5	<50
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
12...	1.7	0.190	0.040	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	0.110	0.020	1300	70	--	70	53	<0.5	<0.5	<50
AUG											
30...	0.80	0.290	0.210	--	260	1	--	35	--	<0.5	--
30...	--	0.630	0.220	8000	230	--	100	37	<0.5	<0.5	<50

03345500 EMBARRAS RIVER NEAR STE. MARIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
OCT											
24...	50	<3	<3	<5	<5	<5	<5	<5	<5	590	<50
24...	<50	<3	<3	<5	<5	<5	<5	<5	<5	660	<50
NOV											
17...	--	--	<1	--	<1	--	<3	--	4	--	160
17...	<50	<3	<3	16	<5	<5	<5	43	<5	17000	250
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<50	<3	<3	6	<5	<5	<5	11	<5	5400	<50
FEB											
24...	--	--	<1	--	<1	--	<3	--	3	--	23
24...	<50	<3	<3	<5	<5	<5	<5	12	<5	1200	<50
APR											
13...	--	--	<1	--	<1	--	<3	--	2	--	17
13...	<50	<3	<3	6	<5	<5	<5	19	<5	<50	<50
MAY											
17...	<50	<3	<3	6	<5	<5	<5	11	<5	1600	<50
17...	<50	<3	<3	5	<5	<5	<5	10	<5	1600	<50
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1600	<50
AUG											
30...	--	--	2	--	<1	--	<3	--	3	--	240
30...	<50	<3	<3	5	<5	<5	<5	94	<5	11000	220

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
OCT											
24...	<5	<5	190	130	<0.05	--	<5	<5	--	<3	<3.0
24...	<5	<5	180	120	<0.05	--	<10	<10	--	<3	<3.0
NOV											
17...	--	<5	--	20	--	<0.1	--	4	<1	--	<1.0
17...	16	<5	1100	53	--	--	5	<5	--	<3	<3.0
JAN											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	13	<5	340	11	--	--	8	<5	--	<3	<3.0
FEB											
24...	--	<5	--	8	--	<0.1	--	<1	1	--	<1.0
24...	5	<5	68	<5	--	--	5	<5	--	<3	<3.0
APR											
13...	--	<5	--	13	--	<0.1	--	<1	1	--	<1.0
13...	5	<5	120	12	--	--	7	<5	--	<3	<3.0
MAY											
17...	<5	<5	95	12	<0.05	--	6	6	--	<3	<3.0
17...	12	<5	91	14	--	--	8	<5	--	<3	<3.0
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
12...	<5	<5	210	<5	--	--	<5	<5	--	<3	<3.0
AUG											
30...	--	2	--	27	--	<0.1	--	2	<1	--	<1.0
30...	23	<5	650	13	--	--	<5	<5	--	<3	<3.0

03345500 EMBARRAS RIVER AT STE. MARIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01067)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT										
24...	100	96	7	--	<100	<100	5.6	--	--	--
24...	90	99	320	300	<50	<50	5.0	--	--	--
NOV										
17...	--	61	--	<6	--	15	--	678	1560	99
17...	90	61	26	<5	<100	<100	22	--	--	--
JAN										
10...	--	--	--	--	--	--	--	398	2160	75
10...	120	100	10	<5	<50	<50	8.6	--	--	--
FEB										
24...	--	130	--	<6	--	11	--	353	1020	81
24...	140	140	<5	<5	<50	<50	4.3	--	--	--
APR										
13...	--	130	--	<6	--	9	--	--	--	--
13...	130	130	<5	<5	<50	<50	4.2	--	--	--
MAY										
17...	150	140	<5	<5	<50	<50	3.0	--	--	--
17...	150	150	<5	<5	<50	<50	4.0	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
JUL										
12...	--	--	--	--	--	--	--	116	114	99
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
12...	130	120	<5	<5	<50	<50	6.1	--	--	--
AUG										
30...	--	41	--	<6	--	18	--	699	2770	93
30...	40	34	15	<5	280	110	15	--	--	--

WABASH RIVER BASIN

03346000 NORTH FORK EMBARRAS RIVER NEAR OBLONG, IL

LOCATION.--Lat 39°00'37", long 87°56'47", in NW1/4NW1/4 sec.35, T.7 N., R.14 W., Crawford County, Hydrologic Unit 05120112, on left bank at downstream side of bridge on State Highway 33, 0.8 mi upstream from Illinois Central Gulf Railroad bridge, 2 mi west of Oblong, and at mile 10.5.

DRAINAGE AREA.--318 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 456.19 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1940, nonrecording gage and Dec. 11, 1940, to Sept. 30, 1964, water-stage recorder at same site at datum 2.00 ft higher. Oct. 8, 1971, to May 15, 1979, water-stage recorder at site 0.8 mi downstream at present datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--49 years, 260 ft^3/s, 11.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft^3/s, Jan. 4, 1950, gage height, 24.38 ft, present datum, from rating curve extended above 15,000 ft^3/s; no flow for many days in 1953-54, 1964, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	1630	4,020	17.43	Sept. 16	1145	*8,010	*19.35
Apr. 4	0545	4,290	17.63				

No flow Oct. 4-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.35	21	e80	79	e40	946	664	84	18	20	338
2	.04	.35	19	e70	74	e35	509	262	88	19	19	1180
3	.02	.41	18	e65	217	e30	2450	185	149	28	16	408
4	.00	4.7	16	e60	234	92	3990	157	439	289	15	130
5	.00	24	15	102	e80	206	2870	323	376	264	14	80
6	.00	9.2	14	822	e55	185	1540	305	386	94	23	55
7	.00	3.5	14	1560	e45	101	392	163	120	51	26	42
8	.00	2.3	13	1640	e35	87	626	126	71	36	36	43
9	.00	.98	12	556	e30	126	1180	114	55	35	18	1140
10	.00	73	12	180	e25	468	470	170	47	37	13	2230
11	.00	126	11	129	e23	1320	272	155	42	33	11	2680
12	.00	37	9.9	137	e23	1030	209	110	38	224	10	1080
13	.00	23	10	135	e40	423	178	91	36	407	9.4	195
14	.00	15	10	106	66	253	153	80	35	90	9.3	1140
15	.00	13	10	81	100	188	137	71	32	43	8.5	3320
16	.00	272	8.9	77	271	143	127	64	30	28	8.4	6960
17	.01	612	9.1	69	302	111	114	58	28	23	17	4110
18	.14	232	8.8	62	173	98	109	53	27	21	16	772
19	.03	101	9.1	56	125	87	111	76	26	19	10	194
20	.04	352	9.2	48	123	1070	115	823	28	24	8.5	144
21	.12	592	8.8	40	492	3380	99	638	62	838	7.9	120
22	.17	286	9.2	35	489	2760	88	226	31	694	33	103
23	.28	113	13	31	170	648	84	1040	25	174	35	92
24	.14	68	94	31	e70	292	1020	714	67	90	21	83
25	.07	46	68	33	e60	222	479	310	108	59	36	75
26	.09	38	50	106	e55	183	213	1310	49	62	22	68
27	.23	41	40	292	e50	156	221	1190	30	65	15	63
28	.33	34	111	195	e45	140	1130	277	25	38	14	58
29	.39	30	217	122	---	136	1720	159	22	28	856	55
30	.35	25	e150	102	---	635	1730	128	20	24	1240	52
31	.35	---	e100	94	---	1460	---	104	---	20	570	---
TOTAL	2.84	3174.79	1111.0	7116	3551	16105	23282	10146	2576	3875	3158.0	27010
MEAN	.092	106	35.8	230	127	520	776	327	85.9	125	102	900
MAX	.39	612	217	1640	492	3380	3990	1310	439	838	1240	6960
MIN	.00	.35	8.8	31	23	30	84	53	20	18	7.9	42
CFSM	.00	.33	.11	.72	.40	1.63	2.44	1.03	.27	.39	.32	2.83
IN.	.00	.37	.13	.83	.42	1.88	2.72	1.19	.30	.45	.37	3.16

CAL YR 1988 TOTAL 79528.47 MEAN 217 MAX 8240 MIN .00 CFSM .68 IN. 9.30
WTR YR 1989 TOTAL 101107.63 MEAN 277 MAX 6960 MIN .00 CFSM .87 IN. 11.83

e Estimated

03346000 NORTH FORK EMBARRAS RIVER NEAR OBLONG, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 24...	1330	17002	17002	0.10	529	7.20	10.0	5.0	7.1	22	K110
NOV 29...	1430	17002	17002	30	545	7.40	6.0	7.7	12.6	20	K110
JAN 04...	1530	17002	17002	62	521	8.00	1.0	18	14.7	18	180
FEB 01...	1330	17002	17002	79	608	7.90	9.0	21	11.6	18	110
MAR 15...	1430	17002	17002	180	490	7.80	9.0	15	11.2	19	K90
MAY 16...	1400	17002	17002	64	637	8.00	18.0	5.5	10.3	15	130
JUN 20...	1400	17002	17002	26	677	8.00	23.5	1.0	9.0	20	K160
JUL 26...	0930	17002	17002	64	482	7.60	25.0	7.3	6.9	14	580
AUG 28...	1100	17002	17002	11	426	7.50	25.5	28	5.0	17	K360

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT 24...	200	200	50	50	19	19	33	34	2.9	2.9	37
NOV 29...	190	190	52	51	17	16	35	35	4.8	4.8	55
JAN 04...	200	200	50	49	18	18	26	26	3.8	3.7	45
FEB 01...	240	240	62	60	22	21	28	28	3.1	3.0	48
MAR 15...	200	210	54	54	17	17	19	--	3.3	3.3	31
MAY 16...	280	280	70	70	25	25	27	26	2.6	2.0	43
JUN 20...	280	280	73	71	25	25	36	36	2.1	2.0	54
JUL 26...	210	210	54	54	18	17	20	20	4.5	4.2	34
AUG 28...	150	150	42	38	14	13	22	21	4.0	3.0	32

03346000 NORTH FORK EMBARRAS RIVER NEAR OBLONG, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT 24...	16	4	<0.100	<0.100	<0.001	0.120	0.040	570	<50	80
NOV 29...	19	3	1.60	0.500	0.002	0.207	0.080	1300	450	90
JAN 04...	23	4	3.60	0.170	0.002	0.270	0.130	610	<50	90
FEB 01...	39	5	2.70	0.280	0.004	0.200	0.070	560	60	100
MAR 15...	15	4	3.30	0.140	0.002	0.160	0.070	1100	300	50
MAY 16...	23	5	1.50	<0.100	<0.003	0.080	0.020	600	110	100
JUN 20...	32	6	0.380	<0.100	<0.005	0.150	0.030	1800	930	100
JUL 26...	90	8	1.70	<0.100	<0.002	0.170	0.070	1500	50	100
AUG 28...	74	8	0.270	0.120	0.002	0.180	0.070	1400	<50	90

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT 24...	74	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV 29...	78	<0.5	<0.5	<50	--	<3	<3	<5	<5	<5
JAN 04...	74	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB 01...	80	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR 15...	36	<0.5	<0.5	<50	<50	<3	<3	7	<5	<5
MAY 16...	88	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 20...	96	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUL 26...	83	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG 28...	62	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

03346000 NORTH FORK EMBARRAS RIVER NEAR OBLONG IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
OCT 24...	<5	<5	--	1100	100	<5	<5	590	540	<0.05
NOV 29...	<5	<5	<5	1600	59	<5	<5	230	210	0.07
JAN 04...	<5	<5	<5	940	<50	<5	<5	120	94	<0.05
FEB 01...	<5	<5	<5	1100	<50	<5	<5	170	130	<0.05
MAR 15...	<5	<5	<5	1400	81	<5	<5	140	92	<0.05
MAY 16...	<5	<5	<5	950	340	<5	<5	190	160	<0.05
JUN 20...	<5	<5	<5	1400	<50	<5	<5	360	270	<0.05
JUL 26...	<5	<5	<5	1900	<50	<5	<5	190	100	<0.05
AUG 28...	<5	<5	<5	2100	<50	<5	<5	340	210	<0.05

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 24...	5	<5	<3	<3.0	150	150	<5	<5	120	<100
NOV 29...	<5	8	<3	<3.0	150	150	<5	<5	<50	--
JAN 04...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
FEB 01...	<5	--	<3	<3.0	190	190	<5	<5	<50	<50
MAR 15...	<5	<5	7	<5.0	130	--	<5	<5	<50	<50
MAY 16...	<5	7	<3	<3.0	190	190	<5	<5	<50	<50
JUN 20...	<5	<5	<3	<3.0	190	180	5	<5	<50	<50
JUL 26...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
AUG 28...	7	5	<3	<3.0	130	110	<5	<5	<100	<100

03378000 BONPAS CREEK AT BROWNS, IL

LOCATION.--Lat 38°23'11", long 87°58'32", in NW1/4SE1/4 sec.33, T.1 S., R.14 W., Wabash County, Hydrologic Unit 05120113, on right bank at downstream side of bridge on State Highway 15, 0.5 mi north of Browns, 0.7 mi upstream from Southern Railway bridge, and at mile 14.6.

DRAINAGE AREA.--228 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 372.92 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1968, water-stage recorder and concrete dam at site 0.4 mi downstream at datum 2.0 ft higher. Dec. 11, 1968, to Aug. 13, 1969, nonrecording gage at site 0.5 mi downstream at datum 1.0 ft lower. Prior to Oct. 1, 1982, auxiliary nonrecording gage near mouth on Wabash River at Grayville read twice daily.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--49 years, 228 ft^3/s, 13.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,500 ft^3/s, May 9, 1961, gage height, 24.04 ft, site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,520 ft^3/s, Mar. 31, gage height, 20.71 ft; no flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	e3.5	12	56	67	46	4170	40	24	12	4.0	244
2	.06	e5.0	8.5	74	189	40	3480	14	19	240	2.3	604
3	.05	9.5	6.6	218	1280	41	3290	11	17	1070	1.0	241
4	.01	33	5.6	481	1190	451	3700	9.1	18	814	.72	27
5	.00	207	4.6	390	1080	661	3100	11	462	381	.46	11
6	.00	114	e4.2	1380	618	484	2530	11	505	83	203	6.5
7	.00	29	e4.0	1340	155	439	1930	11	125	28	30	4.3
8	.00	16	e3.8	2100	63	435	1410	7.8	42	16	5.0	3.0
9	.00	13	e3.6	2160	53	687	1010	7.6	28	11	2.0	2.6
10	.00	100	e3.4	1830	41	727	609	10	20	8.2	.71	148
11	.00	147	e3.2	1360	39	741	e250	9.8	17	6.7	.31	24
12	.00	29	e3.1	949	47	463	e100	9.0	19	6.4	.17	9.5
13	.00	15	e3.0	491	501	374	e75	7.2	131	14	.12	5.6
14	.00	13	e2.9	238	1980	610	e60	5.2	1330	6.9	.09	99
15	.00	11	e2.8	477	2180	474	e50	4.1	929	4.2	.07	488
16	.00	7.4	e2.7	309	2260	274	e45	3.7	249	3.2	.06	371
17	.00	59	e2.6	165	2060	125	36	3.6	51	2.5	.08	79
18	.70	44	e2.5	106	1640	89	31	3.6	61	2.1	42	19
19	.35	20	e2.5	75	1120	64	108	44	307	268	23	11
20	.17	265	e2.4	56	660	820	98	586	56	479	50	7.1
21	.14	348	e2.4	41	839	1300	50	238	27	90	400	5.5
22	.13	113	e2.3	34	482	1660	37	145	19	16	410	4.7
23	3.9	31	e5.0	32	364	1720	33	819	16	8.5	56	4.6
24	1.3	17	e60	31	133	1630	34	659	13	5.5	24	4.3
25	.85	11	e20	44	87	1160	30	223	24	4.4	94	4.2
26	3.9	18	e10	483	88	537	25	290	19	7.1	76	3.4
27	8.2	147	e7.0	585	79	137	21	239	13	3.5	46	3.1
28	8.5	92	238	295	61	88	18	74	136	2.3	321	3.0
29	e6.0	34	308	134	---	1070	17	47	48	1.8	548	2.5
30	e5.0	19	154	123	---	3230	114	40	18	1.5	602	2.3
31	e4.0	---	86	90	---	4410	---	31	---	3.5	223	---
TOTAL	43.26	1970.4	976.7	16147	19356	24987	26461	3613.7	4743	3600.3	3165.09	2442.2
MEAN	1.40	65.7	31.5	521	691	806	882	117	158	116	102	81.4
MAX	8.5	348	308	2160	2260	4410	4170	819	1330	1070	602	604
MIN	.00	3.5	2.3	31	39	40	17	3.6	13	1.5	.06	2.3
CFSM	.01	.29	.14	2.28	3.03	3.54	3.87	.51	.69	.51	.45	.36
IN.	.01	.32	.16	2.63	3.16	4.08	4.32	.59	.77	.59	.52	.40

CAL YR 1988 TOTAL 46205.36 MEAN 126 MAX 2020 MIN .00 CFSM .55 IN. 7.54
WTR YR 1989 TOTAL 107505.65 MEAN 295 MAX 4410 MIN .00 CFSM 1.29 IN. 17.54

e Estimated

03378000 BONPAS CREEK AT BROWNS, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (3161
OCT											
12...	1200	17002	17002	0.0	440	7.10	9.0	8.3	7.8	27	<2100
NOV											
15...	1100	17002	17002	11	241	6.30	10.0	69	4.2	40	K40
JAN											
24...	1100	17002	17002	31	482	8.00	4.5	11	11.4	9	K40
FEB											
16...	1100	17002	17002	2260	142	6.80	3.0	170	10.9	36	<10
APR											
12...	1400	81700	80020	104	472	6.90	10.5	--	8.0	--	--
13...	1000	17002	17002	75	529	7.20	7.5	0.20	7.4	14	K220
MAY											
18...	1100	17002	17002	3.6	698	7.70	19.5	38	6.7	21	220
22...	1000	81700	80020	77	493	6.80	19.5	--	5.9	--	--
JUN											
07...	1100	17002	17002	125	444	7.20	20.5	45	5.1	27	K300
AUG											
03...	1300	17002	17002	1.0	460	7.40	27.5	32	6.5	26	470
SEP											
26...	1200	17002	17002	3.2	415	7.40	14.5	2.6	7.0	24	400

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
12...	190	190	49	46	20	19	22	21	4.7	4.4	28
NOV											
15...	87	87	28	21	11	8.3	15	12	5.7	4.2	22
JAN											
24...	240	240	60	55	27	24	31	29	2.4	2.3	51
FEB											
16...	39	39	14	10	5.6	3.5	4.8	4.3	3.4	1.9	6.8
APR											
12...	--	--	--	--	--	--	--	--	--	--	--
13...	170	170	47	41	19	17	23	21	2.4	2.3	28
MAY											
18...	230	230	65	56	26	22	37	32	3.9	2.8	46
22...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	160	160	45	39	17	15	16	14	4.8	3.7	24
AUG											
03...	160	160	44	39	17	15	19	18	6.0	5.1	29
SEP											
26...	140	140	39	36	15	13	30	28	8.7	7.7	26

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT											
12...	16	3	<0.100	--	0.110	<0.001	0.110	0.010	950	<50	90
NOV											
15...	94	10	0.550	--	0.300	<0.001	0.610	0.100	4300	<50	90
JAN											
24...	17	2	4.50	--	0.180	0.002	0.080	0.040	500	<50	60
FEB											
16...	108	10	1.60	--	0.420	<0.001	0.480	0.180	12000	<50	80
APR											
12...	--	--	--	2.60	--	--	--	--	--	--	--
13...	55	5	2.50	--	0.240	<0.001	0.130	0.040	1400	90	60
MAY											
18...	125	16	0.730	--	<0.100	<0.002	0.120	0.020	2800	320	100
22...	--	--	--	5.00	--	--	--	--	--	--	--
JUN											
07...	126	11	6.00	--	0.540	0.004	0.210	0.130	5200	970	90
AUG											
03...	104	18	<0.100	--	<0.100	<0.002	0.210	0.030	2300	90	90
SEP											
26...	74	10	0.390	--	<0.100	<0.001	0.210	0.100	2700	<50	100

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT										
12...	77	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV										
15...	27	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN										
24...	55	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB										
16...	16	<1.0	<0.5	<50	<50	<3	<3	12	<5	5
APR										
12...	--	--	--	--	--	--	--	--	--	--
13...	43	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY										
18...	72	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
22...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	53	<2.0	<1	<50	<50	<3	<3	9	<5	<5
AUG										
03...	60	<0.5	<0.5	<50	<50	<3	<3	7	<5	7
SEP										
26...	66	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

03378000 BONPAS CREEK AT BROWNS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT										
12...	<5	<5	<5	1600	<50	<5	<5	800	710	<0.05
NOV										
15...	<5	6	<5	6200	77	8	<5	520	260	<0.05
JAN										
24...	<5	<5	<5	740	<50	<5	<5	120	100	<0.05
FEB										
16...	<5	16	13	12000	71	6	<5	260	29	<0.05
APR										
12...	--	--	--	--	--	--	--	--	--	--
13...	<5	<5	<5	2200	<50	<5	<5	350	270	<0.05
MAY										
18...	<5	<5	<5	3200	<50	<5	<5	640	420	<0.05
22...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	<5	9	<5	5100	56	<5	<5	290	160	<0.05
AUG										
03...	<5	6	<5	3000	<50	<5	<5	750	490	<0.05
SEP										
26...	<5	<5	<5	3300	55	<5	<5	470	360	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
12...	<5	<5	<3	<3.0	150	140	<5	<5	<50	<50
NOV										
15...	<5	<5	<3	<3.0	80	58	12	<5	<50	<50
JAN										
24...	<5	<5	<3	<3.0	190	180	<5	<5	<50	<50
FEB										
16...	15	6	<3	<3.0	40	28	20	<5	<100	<100
APR										
12...	--	--	--	--	--	--	--	--	--	--
13...	<5	<5	<3	<3.0	140	130	<5	<5	<50	<50
MAY										
18...	<5	<5	<3	<3.0	200	170	5	<5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--
JUN										
07...	7	<5	<3	<3.0	130	110	12	<5	<50	<50
AUG										
03...	8	9	<3	<3.0	130	120	10	<5	<100	<100
SEP										
26...	<5	<5	<3	<3.0	130	110	7	<5	<50	<50

WABASH RIVER BASIN

03378635 LITTLE WABASH RIVER NEAR EFFINGHAM, IL

LOCATION (revised).--Lat 39°06'15", long 88°36'09", in NW1/4NW1/4 sec.36, T.8 N., R.5 E., Effingham County, Hydrologic Unit 05120114, on right bank at downstream side of bridge on U.S. Highway 40, 1,000 ft upstream from Penn Central bridge, 2.3 mi southwest of Effingham, and at mile 202.8.

DRAINAGE AREA.--240 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 501.10 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1988, at site 0.3 mi downstream at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Pumpage diverted at station for municipal supply of Effingham not included in records.

AVERAGE DISCHARGE.--23 years, 190 ft^3/s, 10.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft^3/s, Apr. 20, 1970, gage height, 19.95 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 4	0645	*3,890	*15.95	Sept. 14	1815	3,850	15.88

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.93	.41	3.8	e22	28	e20	174	265	80	6.9	e.10	.00
2	1.7	.29	3.1	e20	31	e19	497	154	91	6.4	.02	13
3	.26	.23	5.6	e18	48	e22	1880	103	77	2.7	.00	10
4	.00	8.5	5.7	e16	29	41	3740	87	64	2.0	.00	e2.0
5	.00	5.5	4.4	46	12	71	1590	99	66	2.5	.00	e1.5
6	.00	3.0	.82	276	e9.0	64	1370	83	55	.16	7.3	1.3
7	.00	2.3	1.4	340	e8.0	90	845	63	36	.00	.29	e1.0
8	.00	1.6	3.7	401	e7.0	56	1070	46	35	.00	.00	e.80
9	.00	11	5.3	101	e6.0	48	525	78	39	.01	.00	1870
10	.00	57	5.5	43	e5.5	152	313	116	36	.62	.00	511
11	.00	37	4.7	42	e5.0	653	236	91	27	.59	.00	143
12	.00	31	2.4	40	e5.0	1000	195	66	21	2.8	.00	65
13	.00	25	.00	30	e10	491	165	49	19	.00	.00	34
14	.00	12	1.0	24	18	305	141	45	20	.00	.00	2870
15	.00	5.6	.00	24	37	196	132	38	21	.00	.00	1240
16	.00	94	2.6	18	98	133	125	28	24	.00	.00	282
17	.00	33	3.6	14	72	95	110	20	22	.00	.00	136
18	.39	25	3.0	14	47	84	112	17	17	.00	.00	79
19	.31	14	1.5	16	45	73	114	215	13	.00	.00	50
20	.05	174	1.9	14	41	1830	95	730	7.0	10	.00	39
21	.23	249	2.0	11	189	2000	87	285	4.7	5.1	.00	33
22	.54	53	7.9	8.8	104	492	80	186	5.4	2.7	.00	27
23	5.3	23	32	5.7	43	268	85	311	21	.28	.00	21
24	1.6	14	30	4.8	e35	186	98	160	14	.00	.00	25
25	.47	11	23	17	e30	141	88	230	7.7	.00	.00	21
26	.27	18	17	299	e25	114	83	1380	8.0	.00	.00	15
27	.22	21	76	158	e23	95	115	591	13	1.1	.00	13
28	1.5	17	157	72	e21	87	152	274	3.1	2.5	.00	11
29	1.1	5.6	83	52	---	87	406	204	3.0	3.3	.00	10
30	.70	5.0	e45	41	---	143	604	140	6.9	19	.00	11
31	.52	---	e30	32	---	566	---	102	---	e.50	.00	---
TOTAL	16.09	957.03	562.92	2220.3	1031.5	9622	15227	6256	856.8	69.16	7.71	7535.60
MEAN	.52	31.9	18.2	71.6	36.8	310	508	202	28.6	2.23	.25	251
MAX	5.3	249	157	401	189	2000	3740	1380	91	19	7.3	2870
MIN	.00	.23	.00	4.8	5.0	19	80	17	3.0	.00	.00	.00
CFSM	.00	.13	.08	.30	.15	1.29	2.11	.84	.12	.01	.00	1.05
IN.	.00	.15	.09	.34	.16	1.49	2.36	.97	.13	.01	.00	1.17

CAL YR 1988 TOTAL 47627.96 MEAN 130 MAX 4780 MIN .00 CFSM .54 IN. 7.38
WTR YR 1989 TOTAL 44362.11 MEAN 122 MAX 3740 MIN .00 CFSM .51 IN. 6.88

e Estimated

03378635 LITTLE WABASH RIVER NEAR EFFINGHAM, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
24...	1500	17002	17002	1.1	448	7.40	11.0	5.0	7.9	26	220	190
NOV												
30...	0930	17002	17002	5.0	520	7.40	6.0	8.8	10.8	26	320	230
JAN												
05...	0900	17002	17002	15	753	8.30	1.0	14	14.5	14	K50	290
FEB												
01...	1500	17002	17002	27	664	8.10	8.0	11	11.2	15	K75	300
MAR												
16...	0900	17002	17002	134	502	8.10	5.5	8.0	12.3	18	<5	230
MAY												
17...	0800	17002	17002	19	590	7.90	18.0	9.6	9.9	14	K45	270
JUN												
21...	0830	17002	17002	3.8	647	7.90	23.0	1.2	10.0	16	220	310
AUG												
02...	0700	17002	17002	0.02	430	7.10	24.5	4.6	4.3	21	4100	180
29...	1000	17002	17002	0.0	524	7.80	26.0	3.9	6.6	18	K140	240

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
OCT												
24...	190	49	48	17	17	17	17	3.3	3.2	28	27	--
NOV												
30...	230	57	56	21	21	22	22	6.5	6.2	79	25	--
JAN												
05...	290	72	70	28	28	46	47	4.5	4.5	120	72	--
FEB												
01...	300	72	71	29	29	22	22	3.0	2.9	97	31	--
MAR												
16...	230	56	54	24	23	16	16	2.7	2.7	58	26	--
MAY												
17...	270	63	63	28	28	16	16	2.6	2.9	58	30	--
JUN												
21...	310	75	73	31	30	16	16	2.4	2.4	62	29	--
AUG												
02...	180	47	44	20	18	16	15	2.8	2.4	39	23	0.1
29...	240	56	56	24	24	18	18	3.1	3.3	38	25	--

03378635 LITTLE WABASH RIVER NEAR EFFINGHAM, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT 24...	--	140	17	4	<0.100	<0.100	<0.001	--	0.130	0.060	500	<50
NOV 30...	--	210	35	7	0.650	0.510	0.002	--	0.500	0.330	2400	50
JAN 05...	--	340	22	4	2.60	0.380	0.007	--	0.220	0.130	270	50
FEB 01...	--	253	27	5	3.80	0.200	0.004	--	0.200	0.110	440	<50
MAR 16...	--	182	19	5	3.50	<0.100	<0.002	--	0.110	0.030	670	290
MAY 17...	--	198	26	5	2.30	<0.100	<0.003	--	0.070	0.010	630	100
JUN 21...	--	214	34	5	1.40	0.120	0.005	--	0.110	0.020	2100	1300
AUG 02...	263	142	16	4	<0.100	<0.100	<0.001	0.90	0.120	0.060	400	<50
29...	--	165	21	4	<0.100	<0.100	<0.004	--	0.110	0.040	390	<50

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT 24...	--	70	67	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV 30...	--	90	65	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN 05...	--	80	72	<0.5	<0.5	<50	<50	<3	<3	5	<5	5
FEB 01...	--	90	76	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR 16...	--	40	30	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY 17...	--	90	81	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 21...	--	100	98	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG 02...	3	70	58	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
29...	--	80	71	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

03378635 LITTLE WABASH RIVER NEAR EFFINGHAM, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)
OCT												
24...	<5	<5	<5	810	<50	<5	<5	200	49	<0.05	<5	<5
NOV												
30...	<5	<5	<5	2600	<50	12	<5	270	200	<0.05	<5	<5
JAN												
05...	<5	<5	<5	550	<50	<5	<5	200	190	0.06	6	<5
FEB												
01...	<5	<5	<5	770	<50	<5	<5	230	190	<0.05	<5	<5
MAR												
16...	<5	<5	<5	720	110	<5	<5	130	66	<0.05	<5	<5
MAY												
17...	<5	<5	<5	830	<50	<5	<5	230	120	<0.05	6	<5
JUN												
21...	<5	<5	<5	1200	<50	<5	<5	270	170	<0.05	<5	<5
AUG												
02...	<5	<5	<5	600	220	<5	<5	430	200	<0.05	<5	<5
29...	<5	<5	<5	600	<50	<5	<5	300	73	<0.05	7	7

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT												
24...	<3	<3.0	110	110	36	<5	<100	<100	12	--	--	1
NOV												
30...	<3	<3.0	120	120	<5	<5	<50	<50	12	--	--	1
JAN												
05...	<5	<5.0	170	170	5	<5	<50	<50	7.9	--	--	1
FEB												
01...	<3	<3.0	170	170	<5	<5	<50	<50	6.3	--	--	<1
MAR												
16...	<3	<3.0	140	130	<5	<5	<50	<50	7.5	--	--	2
MAY												
17...	<3	<3.0	170	170	<5	<5	<50	<50	5.5	--	--	1
JUN												
21...	<3	<3.0	170	170	<5	<5	<50	<50	5.2	--	--	1
AUG												
02...	<3	<3.0	120	110	<5	<5	<50	<50	8.6	<0.005	<5	--
29...	<3	<3.0	140	140	<5	<5	<50	<50	6.8	--	--	--

03378900 LITTLE WABASH RIVER AT LOUISVILLE, IL

LOCATION.--Lat 38°46'23", long 88°29'50", in NW1/4SE1/4 sec.23, T.4 N., R.6 E., Clay County, Hydrologic Unit 05120114, on right bank at city of Louisville pumphouse, 0.5 mi downstream from county highway bridge, 0.7 mi downstream from Panther Creek, and at mile 159.0.

DRAINAGE AREA.--745 mi^2.

PERIOD OF RECORD.--Water years 1971 to current year.

REMARKS.--Water-discharge records from Little Wabash River near Effingham (station 03378635) and Little Wabash River below Clay City (station 03379500) were used to estimate discharges for this station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT 13...	0800	17002	17002	0.20	517	7.30	11.0	6.9	5.5	16	K20	180
NOV 29...	0900	17002	17002	--	401	7.90	5.5	39	9.2	33	K20	140
JAN 05...	0900	17002	17002	--	523	7.70	0.0	27	13.0	23	K20	180
FEB 15...	0900	17002	17002	271	678	8.00	0.0	26	12.5	26	530	230
MAR 28...	0900	17002	17002	372	616	7.50	13.5	13	8.2	19	K30	220
MAY 31...	0900	17002	17002	348	483	7.70	21.5	60	5.2	25	<10	170
JUN 29...	1000	17002	17002	110	530	7.40	25.5	8.0	4.8	25	K750	230
AUG 08...	0800	17002	17002	68	560	7.30	24.0	25	5.0	23	190	160
SEP 06...	0900	17002	17002	26	427	7.20	23.0	28	4.2	19	<10	130

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)
OCT 13...	180	46	44	19	17	38	34	4.8	4.0	--	40	--
NOV 29...	140	40	35	15	13	21	20	5.5	4.4	--	25	--
JAN 05...	180	48	43	20	18	30	27	5.0	4.3	--	41	--
FEB 15...	230	63	55	26	23	36	32	4.4	3.6	--	41	--
MAR 28...	220	64	53	25	21	22	19	5.0	4.1	--	29	--
MAY 31...	170	53	45	17	14	18	16	4.9	4.2	--	24	--
JUN 29...	230	59	57	22	22	21	20	6.7	6.6	--	26	--
AUG 08...	160	41	41	14	14	30	30	6.0	6.0	47	46	0.4
SEP 06...	130	37	32	13	11	24	21	7.6	6.4	--	31	--

03378900 LITTLE WABASH RIVER AT LOUISVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT 13...	--	--	11	2	<0.100	<0.100	<0.001	--	--	0.040	<0.010	290
NOV 29...	--	--	73	9	1.00	0.380	0.004	--	--	0.509	0.210	5300
JAN 05...	--	--	27	6	1.90	0.340	0.001	--	--	0.340	0.200	830
FEB 15...	--	--	65	6	2.30	0.700	0.006	--	--	0.260	0.080	2000
MAR 28...	--	--	68	8	1.90	0.130	0.001	--	--	0.150	0.020	1600
MAY 31...	--	--	129	11	1.70	0.140	0.003	--	--	0.278	0.120	2800
JUN 29...	--	--	110	9	0.650	0.100	0.002	--	--	0.250	0.071	1600
AUG 08...	326	185	60	10	<0.100	0.330	0.004	0.67	1.0	0.180	0.048	910
SEP 06...	--	--	46	6	1.10	0.140	0.001	--	--	0.160	<0.010	1300

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT 13...	<50	--	80	69	<0.5	<0.5	60	50	<3	<3	<5	<5
NOV 29...	130	--	90	45	<0.5	<0.5	<50	<50	<3	<3	7	<5
JAN 05...	<50	--	60	46	<0.5	<0.5	<50	<50	<3	<3	5	<5
FEB 15...	<50	--	70	45	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR 28...	80	--	100	70	<0.5	<0.5	<50	<50	<3	<3	6	<5
MAY 31...	180	--	100	70	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JUN 29...	210	--	100	84	<0.5	<0.5	60	60	<3	<3	5	<5
AUG 08...	160	2	90	79	<0.5	<0.5	90	80	<3	<3	9	<5
SEP 06...	<50	--	90	69	<0.5	<0.5	80	70	<3	<3	<5	<5

03378900 LITTLE WABASH RIVER AT LOUISVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT												
13...	<5	<5	<5	<5	560	<50	<5	<5	270	220	<0.05	<5
NOV												
29...	<5	<5	<5	8	5300	560	<5	<5	260	250	<0.05	<5
JAN												
05...	<5	<5	<5	<5	1100	<50	<5	<5	130	96	<0.05	5
FEB												
15...	<5	<5	<5	<5	2300	75	<5	<5	320	250	<0.05	<5
MAR												
28...	<5	<5	<5	<5	2200	<50	<5	<5	240	130	<0.05	6
MAY												
31...	<5	<5	<5	<5	3400	<50	<5	<5	280	34	<0.05	6
JUN												
29...	<5	<5	<5	<5	2100	<50	5	<5	420	240	<0.05	<5
AUG												
08...	6	<5	<5	<5	1300	230	<5	<5	430	360	<0.05	14
SEP												
06...	<5	<5	<5	<5	1900	<50	<5	<5	520	420	<0.05	6

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
OCT												
13...	<5	<3	<5.0	120	110	<5	<5	<50	<50	6.7	--	--
NOV												
29...	<5	<3	<3.0	120	100	9	<5	<100	<100	13	--	--
JAN												
05...	--	<5	<5.0	170	150	5	<5	<50	<50	12	--	--
FEB												
15...	<5	<3	<3.0	190	170	<5	<5	<50	<50	13	--	--
MAR												
28...	7	<3	<3.0	180	150	<5	<5	<50	<50	7.3	--	--
MAY												
31...	<5	<3	<3.0	150	120	7	<5	<50	<50	10	--	--
JUN												
29...	5	<3	<3.0	140	140	6	<5	<50	<50	8.5	--	--
AUG												
08...	<5	7	<3.0	110	--	10	<5	<50	<50	8.7	<0.005	<5
SEP												
06...	<5	<3	<3.0	110	95	<5	<5	<100	<100	9.2	--	--

03379500 LITTLE WABASH RIVER BELOW CLAY CITY, IL

LOCATION.--Lat 38°38'05", long 88°17'50", in SE1/4 sec.3, T.2 N., R.8 E., Clay County, Hydrologic Unit 05120114, on right bank 300 ft downstream from highway bridge, 0.3 mi downstream from Big Muddy Creek, 5 mi southeast of Clay City, and at mile 128.5.

DRAINAGE AREA.--1,131 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1914 to current year. Prior to October 1958, published as "at Wilcox." Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 973: 1937-40. WSP 1335: 1915-33, 1934(M), 1935, 1940, 1941(M), 1946(M). WSP 1625: 1958. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 392.29 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 2, 1947, nonrecording gage at highway bridge 300 ft upstream at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--75 years, 904 ft^3/s, 10.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft^3/s, Jan. 5, 1950, gage height, 26.67 ft; no flow Sept. 3-19, 1954.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 8	2230	6,180	19.89	Apr. 4	2115	*11,000	*21.33
Mar. 22	0200	10,100	21.12				

Minimum daily discharge, 1.0 ft^3/s, Oct. 10-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	7.3	119	447	228	e130	8250	688	550	89	e50	240
2	2.7	6.0	81	340	210	e120	7020	689	352	57	e40	313
3	2.7	5.4	59	304	1040	e110	7630	471	312	48	e35	206
4	e2.2	6.0	48	491	982	618	9990	321	474	43	29	145
5	e2.0	35	40	683	534	1910	10300	261	1180	40	23	104
6	e1.6	110	37	2980	320	1560	9240	287	1510	44	19	70
7	e1.4	193	34	5030	219	618	8680	305	718	47	15	55
8	e1.2	92	31	5900	e150	415	7520	249	384	42	13	45
9	e1.1	28	28	5820	e120	496	6240	205	249	34	24	168
10	1.0	18	27	3650	e100	1660	4370	181	184	29	43	762
11	1.0	87	26	1460	e90	2060	2460	183	149	26	28	1700
12	e1.0	357	24	559	e80	2710	1210	232	132	24	20	1370
13	e1.0	276	22	417	219	2830	692	218	118	21	16	533
14	e1.0	107	21	326	1360	3180	525	178	107	19	13	784
15	e1.0	48	20	276	993	2620	437	148	95	17	11	3540
16	e1.0	119	19	250	1300	1370	381	129	84	15	11	4690
17	e3.0	728	20	224	886	670	333	118	79	15	36	4690
18	e7.0	990	19	197	582	453	355	110	81	17	161	4520
19	e6.0	484	19	179	428	357	590	124	77	17	99	4650
20	e5.0	1060	18	156	388	2060	456	1170	69	18	59	4570
21	e4.5	2220	18	138	1260	7340	364	658	64	40	68	2290
22	e4.0	2430	17	122	1400	9420	294	907	58	249	153	680
23	e3.5	1380	60	110	1000	7410	259	1620	54	591	62	250
24	e15	483	228	100	504	7230	252	1140	96	242	683	179
25	e8.0	218	511	97	265	6750	259	722	450	325	3300	128
26	e6.0	142	366	288	195	3920	252	929	213	95	3170	103
27	e5.0	145	239	589	e160	1590	225	2990	139	54	1260	90
28	e20	230	492	819	e140	709	205	3470	92	60	384	85
29	e14	290	746	622	---	668	1360	3760	71	e80	2840	73
30	9.9	191	892	371	---	3980	1470	3180	123	e70	2770	63
31	8.3	---	653	273	---	6710	---	1390	---	e60	946	---
TOTAL	143.5	12485.7	4934	33218	15153	81674	91619	27033	8264	2528	16383	37096
MEAN	4.63	416	159	1072	541	2635	3054	872	275	81.5	528	1237
MAX	20	2430	892	5900	1400	9420	10300	3760	1510	591	3300	4690
MIN	1.0	5.4	17	97	80	110	205	110	54	15	11	45
CFSM	.00	.37	.14	.95	.48	2.33	2.70	.77	.24	.07	.47	1.09
IN.	.00	.41	.16	1.09	.50	2.69	3.01	.89	.27	.08	.54	1.22

CAL YR 1988 TOTAL 305891.6 MEAN 836 MAX 21700 MIN 1.0 CFSM .74 IN. 10.06
WTR YR 1989 TOTAL 330531.2 MEAN 906 MAX 10300 MIN 1.0 CFSM .80 IN. 10.87

e Estimated

03379500 LITTLE WABASH RIVER BELOW CLAY CITY, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT												
13...	1000	17002	17002	E1.0	970	7.30	9.0	7.9	7.2	15	K40	240
NOV												
29...	0700	17002	17002	309	307	8.00	4.5	120	10.2	33	<10	100
JAN												
05...	0700	17002	17002	585	498	7.50	0.0	41	12.8	27	K130	150
FEB												
15...	0700	17002	17002	993	375	7.80	1.0	110	12.0	44	K300	100
MAR												
28...	0700	17002	17002	786	502	7.30	13.5	31	7.6	22	K30	160
MAY												
31...	0700	17002	17002	1670	393	7.40	21.5	110	4.6	33	K400	120
JUN												
29...	0900	17002	17002	71	422	7.20	24.5	39	4.7	25	K300	120
AUG												
07...	1200	17002	17002	15	465	7.20	25.0	16	6.5	22	140	150
SEP												
06...	0700	17002	17002	75	356	7.20	24.0	45	5.4	20	<10	99

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)
OCT												
13...	240	61	58	25	24	98	94	5.6	5.3	--	270	--
NOV												
29...	100	32	26	12	9.5	18	16	5.8	4.0	--	21	--
JAN												
05...	150	44	36	18	14	32	26	5.7	4.5	--	45	--
FEB												
15...	100	33	26	11	8.9	21	18	4.8	3.4	--	30	--
MAR												
28...	160	47	40	18	15	28	24	5.1	3.6	--	30	--
MAY												
31...	120	39	33	11	9.2	17	16	6.0	4.9	--	23	--
JUN												
29...	120	35	30	12	10	29	25	7.8	7.2	--	44	--
AUG												
07...	150	40	39	14	13	29	29	6.6	5.7	37	49	0.3
SEP												
06...	99	29	25	10	8.8	22	20	6.5	6.0	--	35	--

03379500 LITTLE WABASH RIVER BELOW CLAY CITY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
OCT 13...	--	--	18	5	<0.100	<0.100	<0.001	--	0.060	0.010	360	<50
NOV 29...	--	--	114	15	0.880	0.320	0.004	--	0.510	0.180	8100	430
JAN 05...	--	--	36	8	2.30	0.480	0.001	--	0.400	0.270	1100	60
FEB 15...	--	--	168	20	2.30	1.20	0.007	--	0.560	0.210	8700	110
MAR 28...	--	--	86	12	1.40	0.160	<0.001	--	0.200	0.030	3700	100
MAY 31...	--	--	150	14	1.60	0.230	0.003	--	0.410	0.150	4900	160
JUN 29...	--	--	98	10	1.40	0.230	0.002	--	0.310	0.030	3600	140
AUG 07...	290	173	74	9	<0.100	<0.100	<0.001	1.1	0.200	0.020	1500	<50
SEP 06...	--	--	109	10	0.580	0.140	0.001	--	0.210	0.030	1800	60

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
OCT 13...	--	100	100	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV 29...	--	100	37	<0.5	<0.5	<50	<50	<3	<3	12	7	<5
JAN 05...	--	70	41	<0.5	<0.5	<50	<50	<3	<3	8	--	<5
FEB 15...	--	100	36	<1.0	<0.5	<50	<50	<3	<3	11	<5	<5
MAR 28...	--	100	64	<0.5	<0.5	110	100	<3	<3	6	<5	<5
MAY 31...	--	100	58	<0.5	<0.5	70	60	<3	<3	<5	<5	<5
JUN 29...	--	100	60	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
AUG 07...	2	100	85	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP 06...	--	100	64	<0.5	<0.5	50	<50	<3	<3	<5	<5	<5

03379500 LITTLE WABASH RIVER BELOW CLAY CITY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)
OCT												
13...	<5	<5	<5	740	<50	<5	<5	410	330	<0.05	<5	<5
NOV												
29...	<5	36	--	9900	3500	6	<5	690	--	<0.05	<5	<5
JAN												
05...	<5	<5	<5	1400	<50	<5	<5	140	85	0.11	<5	6
FEB												
15...	<5	8	<5	7700	110	6	<5	360	160	<0.05	9	5
MAR												
28...	<5	<5	<5	4200	<50	<5	<5	280	160	<0.05	<5	<5
MAY												
31...	<5	<5	<5	5400	<50	6	<5	360	43	<0.05	6	<5
JUN												
29...	<5	6	<5	5500	54	6	<5	620	370	<0.05	<5	<5
AUG												
07...	<5	<5	<5	2500	<50	<5	<5	540	370	<0.05	<5	<5
SEP												
06...	<5	<5	5	3400	57	<5	<5	550	390	<0.05	6	<5

DATE	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
OCT											
13...	<3	<3.0	240	230	<5	<5	<50	<50	6.6	--	--
NOV											
29...	<3	<3.0	100	81	14	<5	190	--	13	--	--
JAN											
05...	<3	<3.0	150	120	<5	<5	<50	<50	13	--	--
FEB											
15...	<3	<3.0	110	87	15	<5	<50	<50	22	--	--
MAR											
28...	<3	<3.0	160	130	7	<5	<50	<50	9.8	--	--
MAY											
31...	<3	<3.0	120	99	9	<5	<50	<50	14	--	--
JUN											
29...	<3	<3.0	140	120	9	<5	<50	<50	10	--	--
AUG											
07...	<3	<3.0	150	140	<5	<5	<50	<50	8.1	<0.005	<5
SEP											
06...	<3	<3.0	120	99	5	<5	<100	<100	9.9	--	--

03379600 LITTLE WABASH RIVER AT BLOOD, IL

LOCATION.--Lat 38°31'08", long 88°07'55", in NE1/4SE1/4 sec.18, T.1 N., R.10 E., Edwards County, Hydrologic Unit 05120114, on right bank at downstream side of bridge on county highway, 0.5 mi south of Blood, 1.0 mi upstream from Sugar Creek, 1.5 mi downstream from Fox River, and at mile 105.3.

DRAINAGE AREA.--1,387 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site C 09.

REMARKS.--Water-discharge records from Little Wabash River below Clay City (station 03379500) were used to estimate discharges for this station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
12...	1300	17002	17002	2.0	710	7.30	13.0	7.7	8.0	19	<30	220
NOV												
28...	1200	17002	17002	--	2860	7.40	6.5	23	8.2	38	--	86
JAN												
04...	1200	17002	17002	--	437	7.50	0.5	47	12.4	29	300	130
FEB												
14...	1200	17002	17002	2840	225	7.20	1.0	150	12.4	53	K800	57
MAR												
27...	1200	17002	17002	5470	271	6.80	14.5	130	5.8	32	K80	66
MAY												
30...	1200	17002	17002	3180	276	7.30	22.0	19	4.7	36	500	81
JUN												
28...	1600	17002	17002	162	367	7.00	26.5	91	3.5	29	2200	100
AUG												
07...	1300	17002	17002	18	480	7.70	26.0	29	8.3	26	<30	150
SEP												
05...	1200	17002	17002	147	279	7.00	24.0	45	4.5	22	400	78

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)
OCT												
12...	220	56	53	23	22	61	57	5.3	4.8	--	84	--
NOV												
28...	86	26	22	9.3	7.5	16	14	5.6	4.3	--	22	--
JAN												
04...	130	38	33	15	12	28	24	5.8	4.8	--	38	--
FEB												
14...	57	21	15	7.9	4.7	11	9.1	4.6	2.4	--	8.7	--
MAR												
27...	66	25	17	8.8	5.8	12	8.9	6.5	4.0	--	15	--
MAY												
30...	82	29	23	7.9	5.8	9.5	8.1	7.0	5.3	--	15	--
JUN												
28...	100	30	25	11	9.0	24	21	7.5	6.1	--	35	--
AUG												
07...	150	39	38	13	13	32	31	6.5	5.8	39	52	0.3
SEP												
05...	78	23	20	8.1	6.9	16	14	6.2	6.0	--	24	--

03379600 LITTLE WABASH RIVER AT BLOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT 12...	--	--	18	4	<0.100	<0.100	<0.001	--	0.060	0.010	370	<50
NOV 28...	--	--	84	10	0.980	0.380	0.001	--	0.480	0.250	5800	<50
JAN 04...	--	--	32	6	2.50	0.360	0.001	--	0.400	0.260	1300	50
FEB 14...	--	--	257	21	2.00	0.950	0.001	--	0.760	0.200	18000	110
MAR 27...	--	--	37	5	1.10	0.140	<0.001	--	0.320	0.110	6900	110
MAY 30...	--	--	128	14	2.10	0.240	0.002	--	0.500	0.200	6900	80
JUN 28...	--	--	136	15	1.40	0.340	0.002	--	0.340	0.040	4600	180
AUG 07...	291	179	72	14	<0.100	<0.100	<0.003	1.2	0.186	0.020	1400	<50
SEP 05...	--	--	160	14	0.520	0.230	0.001	--	0.240	0.060	1800	<50

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT 12...	--	100	90	<0.5	<0.5	60	50	<3	<3	5	<5	<5
NOV 28...	--	80	30	<0.5	<0.5	<50	<50	<3	<3	8	<5	<5
JAN 04...	--	60	38	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB 14...	--	200	23	<2.0	<0.5	<50	<50	<3	<3	18	<5	8
MAR 27...	--	90	34	<0.5	<0.5	60	<50	<3	<3	12	<5	<5
MAY 30...	--	100	43	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 28...	--	100	47	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
AUG 07...	2	100	82	<0.5	<0.5	<50	<50	<3	<3	5	<5	<5
SEP 05...	--	80	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

03379600 LITTLE WABASH RIVER AT BLOOD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)
OCT 12...	<5	<5	<5	670	<50	<5	<5	490	420	0.07	<5	<5
NOV 28...	<5	5	<5	5800	<50	5	<5	300	170	<0.05	<5	<5
JAN 04...	<5	<5	<5	1600	<50	<5	<5	140	84	0.16	<5	<5
FEB 14...	<5	12	6	17000	130	12	<5	710	120	<0.05	17	<5
MAR 27...	<5	9	<5	6200	76	<5	<5	110	18	<0.05	13	<5
MAY 30...	<5	7	<5	7400	<50	7	<5	310	12	<0.05	<5	<5
JUN 28...	<5	5	<5	6100	53	64	<5	590	290	<0.05	8	<5
AUG 07...	<5	<5	<5	2200	<50	<5	<5	640	430	<0.05	<5	<5
SEP 05...	<5	<5	<5	3100	83	<5	<5	550	410	<0.05	<5	<5

DATE	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
OCT 12...	<3	<3.0	180	170	<5	<5	<50	<50	7.8	--	<5
NOV 28...	<3	<3.0	80	63	10	<5	<50	<50	15	--	<5
JAN 04...	<3	<3.0	130	110	<5	<5	<50	<50	14	--	5
FEB 14...	<3	<3.0	70	43	31	<5	<100	<100	21	--	5
MAR 27...	<3	<3.0	90	55	15	<5	<50	<50	14	--	<5
MAY 30...	<3	<3.0	80	64	13	<5	<100	<100	16	--	<5
JUN 28...	<3	<3.0	110	96	10	<5	<50	<50	11	--	<5
AUG 07...	<3	<3.0	130	130	<5	<5	<100	<100	10	<0.005	<5
SEP 05...	<3	<3.0	80	71	5	<5	<100	<100	10	--	<5

03380475 HORSE CREEK NEAR KEENES, IL

LOCATION.--Lat 38°22'34", long 88°39'44", in NW1/4SW1/4 sec.4, T.2 S., R.5 E., Wayne County, Hydrologic Unit 05120115, on right bank at downstream side of bridge on township road, 0.5 mi downstream from Gregory Branch, 3 mi northwest of Keenes, and at mile 5.2.

DRAINAGE AREA.--97.2 mi^2.

PERIOD OF RECORD.--July 1959 to current year.

REVISED RECORDS.--WSP 1725: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 395.35 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--30 years, 100 ft^3/s, 13.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft^3/s, May 8, 1961, gage height, 26.98 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	0630	2,650	17.71	Mar. 30	1115	4,570	19.85
Mar. 21	0345	4,170	19.49	Apr. 4	0515	*4,930	*20.85

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.11	6.6	e30	24	22	968	7.0	7.0	7.1	.99	1.5
2	.00	.07	4.6	e45	171	19	531	6.7	20	5.6	.66	3.1
3	.00	.06	3.5	193	1260	20	2240	6.3	11	5.2	.44	2.0
4	.00	2.1	3.2	273	114	275	3960	6.8	5.8	5.1	.36	1.4
5	.00	58	3.1	269	e40	846	930	6.3	810	5.5	.26	.91
6	.00	40	2.8	1610	e30	175	334	6.8	111	5.5	.21	.78
7	.00	19	2.3	488	e20	80	122	6.7	39	4.8	.18	.70
8	.00	7.9	2.5	324	e15	76	80	6.3	24	4.4	.15	.67
9	.00	4.7	2.3	67	e12	203	62	6.2	15	4.1	.12	3.4
10	.00	6.1	2.1	41	e10	411	46	6.9	11	3.8	.10	7.7
11	.00	7.5	2.0	33	e9.0	238	39	7.4	8.5	3.6	.08	2.3
12	.00	18	1.9	37	e9.0	93	34	6.2	36	3.3	.06	1.5
13	.00	14	1.7	35	520	74	31	5.5	92	5.2	.05	1.0
14	.00	9.2	1.6	26	1960	78	29	5.0	287	4.5	.04	17
15	.00	6.8	1.6	31	732	55	27	4.8	49	3.7	.10	13
16	.00	144	1.7	31	528	36	24	4.5	26	3.4	.46	3.5
17	.00	83	1.6	25	108	31	22	4 3	17	3.0	.30	1.5
18	.00	21	1.4	22	73	28	19	4.1	14	2.7	.17	1.0
19	.00	20	1.4	18	61	24	18	85	53	2.6	.11	.65
20	.00	352	1.5	16	172	1600	17	927	22	2.5	10	.34
21	.00	178	1.6	12	451	3520	16	113	12	2.4	70	.21
22	.00	30	1.8	10	94	612	14	102	8.5	2.3	9.5	.15
23	.03	14	54	10	48	266	14	228	6.8	2.4	5.9	.14
24	.27	10	38	10	e28	92	14	49	6.3	2.5	4.2	.10
25	.08	6.9	33	12	e25	47	13	26	17	2.7	55	.11
26	.03	21	17	155	e28	39	11	61	9.4	7.1	3.9	.09
27	.13	79	17	92	3.	35	10	44	75	4.6	3.2	.05
28	.48	38	159	45	27	43	9.0	18	87	3.8	9.2	.03
29	.44	16	121	36	---	608	8.2	18	18	8.1	36	.02
30	.28	10	e60	35	---	4130	7.6	26	10	3.2	3.8	.01
31	.19	---	e40	29	---	3380	---	13	---	1.5	1.8	---
TOTAL	1.94	1216.44	591.6	4060	6601.0	17156	9649.8	1817.8	1908.3	126.2	217.34	64.86
MEAN	.063	40.5	19.1	131	236	553	322	58.6	63.6	4.07	7.01	2.16
MAX	.48	352	159	1610	1960	4130	3960	927	810	8.1	70	17
MIN	.00	.06	1.4	10	9.0	19	7.6	4.1	5.8	1.5	.04	.01
CFSM	.00	.42	.20	1.35	2.43	5.69	3.31	.60	.65	.04	.07	.02
IN.	.00	.47	.23	1.55	2.53	6.57	3.69	.70	.73	.05	.08	.02

CAL YR 1988 TOTAL 31573.58 MEAN 86.3 MAX 3840 MIN .00 CFSM .89 IN. 12.08
WTR YR 1989 TOTAL 43411.48 MEAN 119 MAX 4130 MIN .00 CFSM 1.22 IN. 16.61

e Estimated

03380500 SKILLET FORK AT WAYNE CITY, IL

LOCATION.--Lat 38°21'25", long 88°35'00", in SW1/4 sec.7, T.2 S., R.6 E., Wayne County, Hydrologic Unit 05120115, on right bank 0.1 mi downstream from Shoe Creek, 0.5 mi downstream from bridge on State Highway 15, 0.9 mi upstream from Southern Railway bridge, 1 mi north of Wayne City, and at mile 42.4.

DRAINAGE AREA.--464 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1908 to December 1912, June 1914 to September 1921, June 1928 to current year.
REVISED RECORDS.--WSP 1143: 1947-48. WSP 1205: 1918-21, 1929-31, 1937-39. WSP 1335: 1908-13, 1961(M), 1930-34, 1935(M). WSP 1725: Drainage area.
GAGE.--Water-stage recorder and concrete dam since Nov. 17, 1954. Datum of gage is 383.15 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1921, nonrecording gage at site 0.9 mi downstream at datum about 3.0 ft lower. June 11, 1928, to Oct. 4, 1939, nonrecording gage at site 0.5 mi upstream at datum 2.8 ft lower.
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Wayne City municipal plant diverts about 0.02 ft^3/s at gage since November 1954; diversion not included in records. U.S. Army Corps of Engineers satellite telemeter and rain gage at station.
AVERAGE DISCHARGE.--72 years, 400 ft^3/s, 11.71 in/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,000 ft^3/s, May 9, 1961; maximum gage height, 26.68 ft, May 8, 1961; no flow at times during 1908, 1934, 1936-37, 1940, 1944, 1954, 1963-64, 1966, 1980, 1983, 1987-89.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	1315	4,160	12.00	Mar. 31	1830	8,390	18.54
Mar. 22	0345	6,680	16.47	Apr. 4	1730	*11,300	*20.09

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.7	56	354	125	104	7290	62	78	64	18	91
2	2.1	.90	38	950	252	91	5440	72	75	37	12	78
3	1.7	.54	28	328	2700	80	6130	78	57	26	8.8	59
4	1.3	3.4	23	1080	1390	677	9660	76	34	20	6.5	44
5	.50	76	21	888	e550	2520	8290	68	1650	17	4.7	29
6	.08	291	19	3280	e200	1460	5660	59	1340	15	3.3	21
7	.03	166	17	3110	e100	550	3300	53	479	15	2.2	14
8	.08	76	14	2880	e70	362	866	50	198	16	1.4	7.9
9	.20	42	14	2380	e50	594	446	48	99	14	.92	5.5
10	.29	28	13	889	e40	1700	336	47	64	12	.68	130
11	.03	24	12	243	e35	1650	239	46	45	9.9	.48	114
12	.00	29	11	185	e32	1120	186	45	41	9.4	.33	46
13	.00	45	11	168	669	641	155	44	169	9.2	.13	25
14	.00	47	11	136	3950	600	136	42	625	9.2	.00	40
15	.00	36	10	123	3010	625	122	40	189	9.2	.00	125
16	.00	264	9.2	125	2530	377	113	38	70	8.6	.35	378
17	.00	572	e9.0	112	1440	211	104	35	42	8.0	.21	265
18	1.4	371	9.2	95	621	163	95	32	40	7.7	.03	70
19	6.1	172	9.2	84	346	124	89	72	77	7.1	.00	37
20	3.8	704	8.6	74	435	2160	227	2800	42	6.7	.00	22
21	2.1	1440	9.2	70	1770	5840	259	1330	28	6.7	244	14
22	1.2	897	7.9	65	1320	6170	173	277	21	6.7	194	11
23	1.9	305	e80	60	588	5010	117	1240	19	6.7	80	8.0
24	5.2	105	264	56	196	3390	98	563	39	6.5	49	5.8
25	4.1	62	131	52	159	738	90	253	899	6.0	152	4.5
26	1.3	63	e70	327	140	275	87	193	300	13	595	4.1
27	.58	232	87	344	128	202	83	318	106	24	210	3.5
28	.88	228	188	289	117	181	77	211	649	16	114	3.1
29	1.2	138	e1000	271	---	1110	69	135	666	15	371	2.9
30	1.3	86	455	188	---	6060	62	161	216	32	220	2.5
31	1.6	---	420	132	---	8010	---	118	---	28	99	---
TOTAL	40.17	6505.54	3055.3	19338	22963	52795	49999	8606	8357	481.6	2388.03	1660.8
MEAN	1.30	217	98.6	624	820	1703	1667	278	279	15.5	77.0	55.4
MAX	6.1	1440	1000	3280	3950	8010	9660	2800	1650	64	595	378
MIN	.00	.54	7.9	52	32	80	62	32	19	6.0	.00	2.5
CFSM	.00	.47	.21	1.34	1.77	3.67	3.59	.60	.60	.03	.17	.12
IN.	.00	.52	.24	1.55	1.84	4.23	4.01	.69	.67	.04	.19	.13

CAL YR 1988 TOTAL 136887.10 MEAN 374 MAX 9980 MIN .00 CFSM .81 IN. 10.97
WTR YR 1989 TOTAL 176189.44 MEAN 483 MAX 9660 MIN .00 CFSM 1.04 IN. 14.13

e Estimated

03380500 SKILLET FORK AT WAYNE CITY, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 13...	1300	17002	17002	0.0	530	7.50	13.5	9.1	7.8	19	K10
NOV 28...	0900	17002	17002	248	527	7.10	7.5	64	7.0	33	--
JAN 04...	0900	17002	17002	1140	463	8.10	1.0	54	12.1	30	960
FEB 14...	0900	17002	17002	4130	198	7.80	1.0	180	12.0	49	680
MAR 27...	0900	17002	17002	209	427	7.60	14.0	36	8.0	20	K110
MAY 30...	0900	17002	17002	171	437	7.30	21.5	52	5.6	24	420
JUN 28...	1200	17002	17002	714	245	7.20	24.5	--	5.2	44	2200
JUL 31...	1500	17002	17002	26	270	7.10	30.0	53	7.0	22	<120
SEP 05...	0900	17002	17002	29	208	7.00	26.5	38	4.1	20	120

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 13...	190	190	47	43	21	19	38	35	3.5	3.2	--
NOV 28...	160	160	44	37	21	17	30	26	6.1	4.7	--
JAN 04...	160	160	41	36	21	18	24	21	4.6	3.7	--
FEB 14...	50	50	18	12	8.9	4.8	8.0	6.2	4.1	1.8	--
MAR 27...	140	140	38	32	18	15	24	20	3.2	3.5	--
MAY 30...	130	130	37	32	13	11	23	20	4.9	4.1	--
JUN 28...	78	78	24	19	10	7.3	10	8.4	6.9	4.9	--
JUL 31...	89	89	22	21	9.7	8.9	13	12	6.6	5.5	41
SEP 05...	69	69	18	17	7.0	6.4	7.3	7.0	6.6	5.2	--

03380500 SKILLET FORK AT WAYNE CITY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT											
13...	50	--	--	--	19	4	<0.100	<0.100	<0.001	--	--
NOV											
28...	40	--	--	--	55	7	1.10	0.200	<0.001	--	--
JAN											
04...	26	--	--	--	176	16	1.70	0.200	0.002	--	--
FEB											
14...	14	--	--	--	292	25	1.00	0.560	0.003	--	--
MAR											
27...	22	--	--	--	21	5	0.740	0.230	0.002	--	--
MAY											
30...	22	--	--	--	51	6	1.40	0.220	0.002	--	--
JUN											
28...	11	--	--	--	322	28	1.40	0.270	0.002	--	--
JUL											
31...	18	0.1	164	107	53	9	0.770	0.140	0.001	1.3	1.4
SEP											
05...	10	--	--	--	29	4	0.410	0.270	0.002	--	--

DATE	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)
OCT										
13...	--	0.040	<0.010	390	<50	--	90	70	<0.5	<0.5
NOV										
28...	--	0.320	0.130	3900	70	--	70	44	<0.5	<0.5
JAN										
04...	--	0.270	0.100	2600	60	--	70	35	<0.5	<0.5
FEB										
14...	--	0.640	0.210	18000	120	--	200	18	<2.0	<0.5
MAR										
27...	--	0.140	0.010	2600	80	--	70	49	<0.5	<0.5
MAY										
30...	--	0.130	0.050	1800	130	--	70	45	<0.5	<0.5
JUN										
28...	--	0.280	0.060	13000	<50	--	200	30	<1.0	<0.5
JUL										
31...	2.2	0.160	0.030	2400	<50	2	70	44	<0.5	<0.5
SEP										
05...	--	0.140	0.020	1200	<50	--	60	45	<0.5	<0.5

03380500 SKILLET FORK AT WAYNE CITY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
13...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
NOV										
28...	<50	<50	<3	<3	5	<5	<5	<5	<5	<5
JAN										
04...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
FEB										
14...	<50	<50	<3	<3	21	<5	10	<5	14	9
MAR										
27...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
MAY										
30...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JUN										
28 ..	<50	<50	<3	<3	15	<5	7	<5	10	<5
JUL										
31...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
SEP										
05...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)
OCT										
13...	940	<50	<5	<5	800	600	0.07	5	<5	<3
NOV										
28...	4300	<50	<5	<5	370	260	<0.05	<5	<5	<3
JAN										
04...	4100	<50	5	<5	410	160	<0.05	6	<5	<3
FEB										
14...	21000	180	12	<5	800	130	<0.05	19	7	<3
MAR										
27...	3200	<50	<5	<5	340	260	<0.05	<5	--	<3
MAY										
30...	2600	<50	<5	<5	380	250	<0.05	5	<5	<3
JUN										
28...	16000	<50	15	<5	890	<5	<0.05	15	<5	<3
JUL										
31...	3200	<50	<5	<5	560	400	<0.05	12	10	<3
SEP										
05...	2300	78	<5	<5	900	760	<0.05	<5	<5	<3

03380500 SKILLET FORK AT WAYNE CITY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)
OCT										
13...	<3.0	180	170	<5	<5	<50	<50	7.3	--	--
NOV										
28...	<3.0	190	160	6	<5	<50	<50	13	--	--
JAN										
04...	<3.0	150	130	5	<5	<50	<50	12	--	--
FEB										
14...	<3.0	70	40	34	<5	<100	<100	18	--	--
MAR										
27...	<3.0	150	140	<5	<5	<50	<50	7.9	--	--
MAY										
30...	<3.0	140	120	<5	<5	<50	<50	11	--	--
JUN										
28...	<3.0	100	67	26	<5	<50	<50	18	--	--
JUL										
31...	<3.0	90	84	<5	<5	<50	<50	10	<0.005	<5
SEP										
05...	<3.0	70	64	<5	<5	<50	<50	9.3	--	--

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°05'32", long 88°09'22", in NE1/4 sec.13, T.5 S., R.9 E., White County, Hydrologic Unit 05120114, at auxiliary gaging station at Main Street Bridge in Carmi, 5.0 mi downstream from Skillet Fork and at mile 33.8.

DRAINAGE AREA.--3,088 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM- PLING DEPTH (FEET) (00003)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)
OCT												
12...	1000	17002	17002	16	--	--	586	7.80	13.5	5.1	7.9	20
12...	1030	81700	17002	16	--	--	578	7.80	13.5	4.3	8.0	17
NOV												
16...	0930	81700	80020	636	--	--	586	7.00	10.5	120	7.3	--
16...	0945	81700	17002	636	--	--	586	7.00	10.5	45	7.3	29
JAN												
09...	1030	81700	80020	8450	--	--	178	6.50	6.0	490	9.3	--
09...	1045	81700	17002	8450	--	--	178	6.50	6.0	130	9.3	57
FEB												
22...	1100	81700	80020	10100	--	--	270	6.70	4.0	120	10.3	--
22...	1115	81700	17002	10100	--	--	270	6.70	4.0	120	10.3	27
APR												
12...	0900	81700	80020	18200	--	--	160	6.60	10.0	120	7.3	--
12...	0915	81700	17002	18200	--	--	160	6.60	10.0	120	7.3	27
12...	1200	81700	80020	18200	--	--	160	6.60	10.0	--	7.3	--
MAY												
15...	0945	17002	17002	431	--	--	668	7.10	18.0	16	8.3	24
15...	1000	81700	17002	431	--	--	640	7.20	18.0	24	8.1	23
22...	1600	81700	80020	4670	--	--	218	7.00	19.0	--	5.1	--
JUL												
11...	1230	81700	80020	135	--	--	396	7.60	29.5	27	5.2	--
11...	1231	81700	81700	--	1.00	15.0	397	7.60	29.5	--	4.7	--
11...	1232	81700	81700	--	1.00	30.0	397	7.60	29.5	--	5.0	--
11...	1233	81700	81700	--	1.00	45.0	395	7.60	29.5	--	5.2	--
11...	1234	81700	81700	--	1.00	60.0	394	7.50	29.5	--	5.3	--
11...	1235	81700	81700	--	1.00	75.0	394	7.50	29.5	--	5.4	--
11...	1236	81700	81700	--	1.00	90.0	397	7.50	29.5	--	5.3	--
11...	1237	81700	81700	--	1.00	105	396	7.50	29.5	--	5.4	--
11...	1300	81700	17002	135	--	--	396	7.60	29.5	3.2	5.2	24
AUG												
14...	1400	17002	17002	40	--	--	400	7.50	28.0	12	7.7	22
28...	1000	17002	17002	2470	--	--	194	6.70	26.0	86	4.2	27
28...	1030	81700	17002	2470	--	--	211	6.80	24.5	91	4.7	28

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
OCT												
12...	5400	--	--	200	39	--	53	49	21	20	42	39
12...	6900	--	--	220	50	--	53	52	21	21	42	41
NOV												
16...	2200	2600	390	160	59	--	--	40	--	15	--	52
16...	2200	--	--	160	76	--	41	38	16	15	55	52
JAN												
09...	1700	1900	K21000	44	24	--	--	11	--	3.9	--	5.8
09...	1700	--	--	48	48	<1.0	18	12	7.9	4.3	7.8	6.5
FEB												
22...	K72	K67	1300	94	48	--	--	23	--	8.8	--	13
22...	K72	--	--	95	64	--	26	24	9.2	8.6	14	14
APR												
12...	K33	K33	120	57	20	--	--	15	--	4.8	--	6.6
12...	K33	--	--	56	29	--	16	15	5.3	4.6	6.5	6.4
12...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
15...	6600	--	--	230	77	--	60	55	25	23	42	39
15...	1900	--	--	240	86	--	60	58	24	23	42	41
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
11...	9400	K25000	580	150	57	--	--	37	--	14	--	25
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	9400	--	--	150	49	--	39	38	14	13	25	25
AUG												
14...	--	--	--	120	120	--	31	30	10	10	23	23
28...	K1600	--	--	51	37	--	16	13	5.8	4.6	12	11
28...	K1800	K3600	2300	56	33	--	16	14	6.0	5.0	12	12

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CARBONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICARBONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKALINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)
OCT												
12...	4.4	3.9	--	--	--	--	166	50	54	0.2	--	--
12...	4.4	4.2	--	--	--	--	167	49	55	0.2	--	--
NOV												
16...	--	6.4	0	128	105	--	103	56	78	--	0.20	6.0
16...	7.0	6.0	--	--	--	--	81	58	80	0.2	--	--
JAN												
09...	--	3.6	0	25	20	20	30	32	10	--	0.20	4.6
09...	3.9	2.1	--	--	--	--	<10	32	12	0.1	--	--
FEB												
22...	--	4.7	0	49	40	--	46	53	17	--	0.20	7.7
22...	3.3	2.9	--	--	--	--	32	59	18	0.1	--	--
APR												
12...	--	3.4	0	43	36	37	39	21	6.7	--	0.10	6.1
12...	4.4	3.9	--	--	--	--	28	26	6.9	0.1	--	--
12...	--	--	--	--	--	37	--	--	--	--	--	--
MAY												
15...	3.7	3.4	--	--	--	--	156	85	57	0.2	--	--
15...	3.7	3.5	--	--	--	--	154	89	58	0.2	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
11...	--	6.2	0	115	94	93	101	49	39	--	0.20	7.8
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	6.8	5.7	--	--	--	--	100	52	43	0.2	--	--
AUG												
14...	6.3	5.7	--	--	--	--	--	38	38	0.2	--	--
28...	6.9	6.3	--	--	--	--	15	24	16	0.2	--	--
28...	6.8	6.0	0	51	42	--	23	27	16	0.2	0.20	6.7

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
OCT												
12...	--	316	17	5	0.200	--	0.140	0.002	--	0.76	0.90	1.1
12...	--	323	9	3	0.200	--	0.120	0.002	--	0.78	0.90	1.1
NOV												
16...	329	319	--	--	--	0.580	0.180	--	0.190	1.1	1.3	--
16...	--	298	11	3	2.00	--	0.190	<0.001	--	1.1	1.3	3.3
JAN												
09...	114	89	--	--	--	1.20	0.440	--	0.100	0.86	1.3	--
09...	--	70	255	16	1.30	--	0.100	<0.001	--	3.0	3.0	4.3
FEB												
22...	179	165	--	--	--	1.90	0.490	--	0.410	1.5	2.0	--
22...	--	146	99	9	2.00	--	0.420	<0.001	--	1.5	1.9	3.9
APR												
12...	107	89	--	--	--	0.430	0.130	--	0.090	0.77	0.90	--
12...	--	80	72	9	0.360	--	0.190	<0.001	--	1.3	1.5	1.9
12...	--	--	--	--	--	0.490	--	--	--	--	--	--
MAY												
15...	--	357	42	7	1.20	--	0.300	0.001	--	0.70	1.0	2.2
15...	--	366	41	6	1.20	--	0.140	<0.001	--	0.96	1.1	2.3
22...	--	--	--	--	--	1.50	--	--	--	--	--	--
JUL												
11...	273	240	--	--	--	1.40	0.140	--	0.170	1.7	1.8	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	237	77	13	1.40	--	0.160	0.005	--	1.5	1.7	3.1
AUG												
14...	257	145	25	4	0.600	--	0.140	0.003	--	0.86	1.0	1.6
28...	--	84	132	11	0.660	--	0.210	<0.001	--	0.99	1.2	1.9
28...	113	101	190	13	0.660	--	0.200	<0.001	--	1.1	1.3	2.0

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT												
12...	0.120	0.040	400	<50	2	--	80	68	<0.5	<0.5	<50	<50
12...	0.120	0.060	400	<50	1	--	80	70	<0.5	<0.5	<50	<50
NOV												
16...	0.520	0.080	--	90	--	1	--	62	--	<0.5	--	--
16...	0.370	0.090	5200	180	3	--	100	57	<0.5	<0.5	80	70
JAN												
09...	0.410	0.150	--	--	--	--	--	--	--	--	--	--
09...	0.808	0.180	15000	430	2	--	200	26	<0.5	<0.5	<50	<50
FEB												
22...	0.320	0.130	--	170	--	<1	--	35	--	<0.5	--	--
22...	0.300	0.130	3000	290	2	--	60	30	<0.5	<0.5	<50	<50
APR												
12...	0.230	0.100	--	210	--	<1	--	33	--	<0.5	--	--
12...	0.310	0.110	5400	380	2	--	70	30	<0.5	<0.5	<50	<50
12...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
15...	0.150	0.040	1100	90	1	--	100	80	<0.5	<0.5	<50	<50
15...	0.100	0.040	1400	90	1	--	100	83	<0.5	<0.5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
11...	0.060	0.030	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	0.135	0.040	1300	70	1	--	80	60	<0.5	<0.5	<50	<50
AUG												
14...	0.040	0.020	520	<50	2	--	60	56	<0.5	<0.5	<50	<50
28...	0.200	0.060	3700	<50	2	--	80	27	<0.5	<0.5	<50	<50
28...	0.310	0.080	4000	220	2	1	80	30	<0.5	<0.5	<50	<50

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT												
12...	<3	<3	<5	<5	<5	<5	<5	<5	630	<50	<5	<5
12...	<3	<3	<5	<5	<5	<5	<5	<5	630	<50	<5	<5
NOV												
16...	--	<1	--	<1	--	<3	--	3	--	130	--	<5
16...	<3	<3	7	<5	<5	<5	5	<5	6100	140	9	<5
JAN												
09...	--	--	--	--	--	--	--	--	--	--	--	--
09...	<3	<3	18	<5	10	<5	21	13	19000	410	31	<5
FEB												
22...	--	<1	--	1	--	<3	--	6	--	230	--	<5
22...	<3	<3	<5	<5	<5	<5	11	5	3600	250	15	<5
APR												
12...	--	2	--	<1	--	<3	--	5	--	200	--	<5
12...	<3	--	7	<5	<5	<5	10	9	5900	340	8	<5
12...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
15...	<3	<3	<5	<5	<5	<5	<5	<5	1400	<50	5	<5
15...	<3	<3	<5	<5	<5	<5	<5	<5	1400	<50	6	<5
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--	--
11...	<3	<3	<5	<5	<5	<5	<5	<5	1700	<50	<5	86
AUG												
14...	<3	<3	<5	<5	<5	<5	<5	<5	710	<50	<5	<5
28...	<3	<3	<5	<5	<5	<5	8	<5	5200	62	17	<5
28...	<3	<3	<5	<5	<5	<5	11	<5	5600	250	26	<5

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT											
12...	330	180	<0.05	--	<5	<5	--	<3	<3.0	180	170
12...	340	180	--	--	<5	<5	--	<3	<3.0	180	180
NOV											
16...	--	280	--	<0.1	--	2	<1	--	<1.0	--	150
16...	470	280	--	--	<5	<5	--	<3	<3.0	170	160
JAN											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	920	84	--	--	18	<5	--	<3	<3.0	70	43
FEB											
22...	--	49	--	0.2	--	2	<1	--	1.0	--	85
22...	170	51	--	--	7	6	--	<3	<3.0	100	88
APR											
12...	--	19	--	<0.1	--	5	<1	--	1.0	--	49
12...	120	21	--	--	<5	<5	--	<3	<3.0	50	46
12...	--	--	--	--	--	--	--	--	--	--	--
MAY											
15...	670	490	<0.05	--	<5	<5	--	<3	<3.0	210	190
15...	670	500	--	--	<5	<5	--	<3	<3.0	210	200
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	710	450	--	--	<5	<5	--	<3	<3.0	140	140
AUG											
14...	650	520	<0.05	--	<5	<5	--	<3	<3.0	120	120
28...	410	190	<0.05	--	<5	<5	--	<3	<3.0	50	44
28...	440	170	--	<0.1	<5	<5	<1	<3	<3.0	50	47

03381495 LITTLE WABASH RIVER AT MAIN STREET AT CARMI, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT											
12...	<5	<5	<50	<50	8.0	<0.005	<5	1	--	--	--
12...	<5	<5	<50	<50	6.9	<0.005	<5	1	--	--	--
NOV											
16...	--	<6	--	9	--	--	--	--	167	287	98
16...	11	<5	<50	<50	12	<0.005	<5	2	--	--	--
JAN											
09...	--	--	--	--	--	--	--	--	741	16900	99
09...	33	<5	<100	<100	22	<0.005	5	2	--	--	--
FEB											
22...	--	<6	--	7	--	--	--	--	116	3160	99
22...	<5	<5	<50	<50	12	<0.005	<5	1	--	--	--
APR											
12...	--	<6	--	24	--	--	--	--	--	--	--
12...	11	<5	<50	<50	12	<0.005	<5	3	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
MAY											
15...	<5	<5	<50	<50	9.3	<0.005	<5	1	--	--	--
15...	<5	<5	<50	<50	9.4	<0.005	<5	1	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
11...	--	--	--	--	--	--	--	--	60	22	97
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
11...	<5	<5	<50	<50	8.8	0.005	<5	--	--	--	--
AUG											
14...	<5	<5	<50	<50	6.9	<0.005	<5	--	--	--	--
28...	10	<5	140	<50	11	<0.005	<5	--	--	--	--
28...	11	<5	<100	<100	11	<0.005	<5	--	204	1360	99

03381500 LITTLE WABASH RIVER AT CARMI, IL

LOCATION.--Lat 38°03'40", long 88°09'35", in NW1/4SE1/4 sec.25, T.5 S., R.9 E., White County, Hydrologic Unit 05120114, on right bank at downstream side of Possum Bridge, 2.3 mi south of Main Street Bridge in Carmi, 7.8 mi downstream from Skillet Fork, and at mile 30.5.

DRAINAGE AREA.--3,102 mi^2.

PERIOD OF RECORD.--October 1908 to December 1912 (gage heights only), October 1939 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 339.91 ft above National Geodetic Vertical Datum of 1929. Prior to December 1912, nonrecording gage at site 3.1 mi upstream at datum 0.4 ft higher. Oct. 1 to Nov. 9, 1939, nonrecording gage at present site and datum. Since Nov. 14, 1939, auxiliary water-stage recorder 3.1 mi upstream.

REMARKS.--Records good except those for estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite telemeter and rain gage at station. There was no diversion through McHenry Slough during the year.

AVERAGE DISCHARGE.--50 years, 2,621 ft^3/s, 11.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,900 ft^3/s, May 12, 1961; maximum gage height, 36.70 ft, May 13, 1961; no flow Sept. 16-17, 1952, result of temporary dam upstream; minimum unregulated discharge, 0.6 ft^3/s, Sept. 9, 1953, July 31, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,100 ft^3/s, Apr. 6; maximum gage height, 32.76 ft, Apr. 7; minimum daily discharge, 15 ft^3/s, Oct. 13-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	38	726	1940	1420	828	17400	942	3070	586	408	2900
2	49	37	632	1940	1380	578	17800	1610	3060	1010	379	2890
3	36	36	520	2580	5240	301	19000	1620	2810	1480	200	2390
4	29	368	396	3530	7040	1980	22900	1330	1930	876	130	1500
5	25	1480	298	3780	7240	6290	23600	1050	2500	737	111	878
6	22	1160	239	5700	e7100	8800	23700	770	4340	636	107	540
7	20	755	206	6890	6080	9130	23600	480	4910	394	100	365
8	19	552	177	8110	3750	8700	23100	397	4190	258	125	260
9	20	425	154	9000	1840	8030	22600	540	3090	193	107	210
10	18	586	137	9320	892	7740	21600	562	1960	157	70	264
11	17	742	126	9380	701	7560	20600	485	1140	139	51	307
12	16	574	113	9260	743	7290	19400	396	714	146	42	561
13	15	381	109	9010	2970	6800	18300	322	1140	425	38	1150
14	15	365	104	8530	8150	6100	17300	345	4420	242	40	1570
15	15	538	105	8100	9870	5670	16500	397	3480	108	48	1820
16	19	726	95	7120	11000	5160	15500	253	1720	80	56	2000
17	21	1460	90	5970	11000	4660	14600	192	740	67	83	2610
18	22	1590	83	4360	10900	4320	13700	147	479	55	90	2830
19	21	1890	81	2480	10700	3960	12900	244	567	53	66	2890
20	21	3540	80	1120	10100	4630	11600	3400	672	50	134	3000
21	25	3850	85	442	9980	6940	10500	4690	460	103	403	3100
22	28	3890	80	483	9590	7830	9290	4670	347	230	636	3180
23	52	3700	92	574	9050	8640	7850	4680	629	198	560	3280
24	60	3210	113	514	8250	9460	5970	4710	472	158	327	3330
25	52	2750	244	504	7260	10300	4130	4060	376	302	470	3150
26	51	2390	337	1710	5780	10900	2170	4010	848	575	1670	2100
27	48	2820	655	3190	3790	11000	1020	3350	770	542	2380	963
28	55	2130	1800	2700	1920	10900	662	2470	754	468	3060	403
29	45	1300	2260	2130	---	10900	741	2530	1010	334	2950	252
30	40	889	2070	2040	---	13900	633	2820	980	234	3380	203
31	38	---	1960	1780	---	16400	---	2980	---	244	2900	---
TOTAL	954	44192	14167	134187	173736	225697	418666	56452	53578	11080	21121	50896
MEAN	30.8	1473	457	4329	6205	7281	13960	1821	1786	357	681	1697
MAX	60	3890	2260	9380	11000	16400	23700	4710	4910	1480	3380	3330
MIN	15	36	80	442	701	301	633	147	347	50	38	203
CFSM	.01	.47	.15	1.40	2.00	2.35	4.50	.59	.58	.12	.22	.55
IN.	.01	.53	.17	1.61	2.08	2.71	5.02	.68	.64	.13	.25	.61

CAL YR 1988 TOTAL 909411 MEAN 2485 MAX 17900 MIN 15 CFSM .80 IN. 10.91
WTR YR 1989 TOTAL 1204726 MEAN 3301 MAX 23700 MIN 15 CFSM 1.06 IN. 14.45

e Estimated

03382100 SOUTH FORK SALINE RIVER NEAR CARRIER MILLS, IL

LOCATION.--Lat 37°38'16", long 88°40'40", in SW1/4NE1/4 sec.20, T.10 S., R.5 E., Saline County, Hydrologic Unit 05140204, on right bank at downstream side of bridge on U.S. Highway 45, 150 ft downstream from Penn Central Railroad bridge, 4.5 mi southwest of Carrier Mills, and at mile 42.4.

DRAINAGE AREA.--147 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 375.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 31, 1967, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--24 years, 162 ft^3/s, 14.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,160 ft^3/s, Jan. 31, 1982, gage height, 16.32 ft; minimum daily, 0.6 ft^3/s, July 29, 30, Sept. 3, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 4	1315	2,540	14.37	Mar. 5	2315	1,880	12.88
Feb. 16	0730	*2,780	*14.42	Mar. 31	2230	2,410	14.15

Minimum daily discharge, 5.7 ft^3/s, Aug. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	11	38	184	142	88	2240	e50	8.8	23	15	9.5
2	7.5	11	29	286	389	76	1540	e40	8.5	80	11	9.1
3	10	9.7	24	207	2090	73	787	e32	8.2	580	9.9	8.5
4	9.8	12	19	138	2500	354	1340	e26	8.2	153	11	8.2
5	7.7	157	17	100	e2000	1600	1290	e22	94	194	8.5	7.4
6	7.0	70	16	700	e1200	1840	707	e20	84	111	7.9	7.1
7	6.8	32	14	542	e600	1480	356	e19	28	64	8.0	6.7
8	6.7	18	14	967	e250	848	279	18	17	46	7.0	6.7
9	6.5	13	12	434	e150	416	236	e25	13	34	6.1	7.7
10	6.5	13	12	165	e110	426	174	56	9.7	31	5.7	10
11	6.4	12	11	123	e90	396	141	48	9.5	26	6.8	14
12	6.2	12	11	143	e80	295	120	e38	19	26	7.6	10
13	6.9	12	10	161	671	212	102	e30	103	34	6.8	8.0
14	7.3	11	11	144	2110	176	85	e26	61	24	6.2	11
15	6.8	11	12	401	2480	165	80	e21	53	17	6.7	17
16	6.7	11	11	229	2710	117	75	e18	29	12	12	17
17	8.6	11	11	161	2210	98	70	e16	19	9.8	54	11
18	8.9	10	10	133	1250	97	71	e15	15	12	20	13
19	8.0	249	12	103	552	75	57	14	57	9.2	11	12
20	7.3	788	11	81	359	92	48	e13	59	8.6	8.9	13
21	6.9	349	9.5	62	746	425	e45	e12	31	11	7.9	11
22	6.5	95	9.3	52	508	230	e40	e11	20	15	7.8	8.3
23	6.5	54	13	51	269	158	e36	e10	16	17	8.3	7.4
24	6.7	35	91	48	188	126	e33	e9.0	315	15	8.2	7.1
25	7.4	26	86	48	162	111	e30	20	79	8.9	79	7.3
26	9.3	113	42	421	153	95	e28	17	31	10	67	8.8
27	9.1	598	36	591	126	89	e50	15	21	8.5	145	8.9
28	8.8	161	1060	298	108	87	e100	13	20	8.2	26	8.3
29	8.6	74	576	229	---	139	e80	12	48	7.3	14	8.1
30	12	49	179	222	---	1210	e60	9.9	33	8.4	11	8.1
31	12	---	126	167	---	2080	---	9.0	---	9.2	9.7	---
TOTAL	242.2	3027.7	2532.8	7591	24203	13674	10300	684.9	1317.9	1613.1	614.0	290.2
MEAN	7.81	101	81.7	245	864	441	343	22.1	43.9	52.0	19.8	9.67
MAX	12	788	1060	967	2710	2080	2240	56	315	580	145	17
MIN	6.2	9.7	9.3	48	80	73	28	9.0	8.2	7.3	5.7	6.7
CFSM	.05	.69	.56	1.67	5.88	3.00	2.34	.15	.30	.35	.13	.07
IN.	.06	.77	.64	1.92	6.12	3.46	2.61	.17	.33	.41	.16	.07

CAL YR 1988 TOTAL 29810.6 MEAN 81.4 MAX 1300 MIN 6.2 CFSM .55 IN. 7.54
WTR YR 1989 TOTAL 66090.8 MEAN 181 MAX 2710 MIN 5.7 CFSM 1.23 IN. 16.73

e Estimated

03382100 SOUTH FORK SALINE RIVER NEAR CARRIER MILLS, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year. Additional chemical data for water years 1963-77 are published in Water-Resources Investigations 78-24 and 79-25 as site ATH 05.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 27...	1000	17002	17002	9.1	1110	5.00	8.5	3.3	9.0	10	<10
DEC 13...	1000	17002	17002	10	1090	6.00	0.5	6.5	12.7	3	<10
JAN 09...	1200	17002	17002	434	565	5.60	4.5	23	10.2	27	390
MAR 09...	1000	17002	17002	416	509	5.20	2.5	1.3	11.9	13	K20
APR 03...	1000	17002	17002	787	451	4.90	12.0	13	7.7	17	240
MAY 08...	1000	17002	17002	18	1260	--	15.5	11	--	5	<10
JUN 08...	1200	17002	17002	17	1200	3.20	22.5	0.70	7.2	7	<10
AUG 17...	0900	17002	17002	54	3330	3.00	21.0	18	4.1	46	<10
SEP 14...	1300	17002	17002	11	962	3.80	20.0	1.6	7.3	5	K40

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT 27...	370	370	100	99	91	38	35	14	13	4.0	3.6
DEC 13...	450	450	54	110	100	50	48	23	22	4.1	3.8
JAN 09...	200	200	28	49	43	25	22	12	11	2.9	2.2
MAR 09...	200	200	32	47	44	23	21	10	9.8	2.1	2.0
APR 03...	150	150	20	38	35	18	16	10	8.9	2.4	2.0
MAY 08...	480	480	104	120	110	55	50	23	22	4.1	3.6
JUN 08...	370	370	220	94	85	42	39	16	15	3.0	3.4
AUG 17...	950	950	1660	190	180	120	120	15	14	4.0	3.4
SEP 14...	360	360	100	100	96	30	28	8.9	8.4	3.9	3.8

03382100 SOUTH FORK SALINE RIVER NEAR CARRIER MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLATILE, SUS-PENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT											
27...	<10	490	75	0.6	725	2	1	<0.100	0.190	<0.001	1.0
DEC											
13...	<10	490	46	0.5	735	11	2	0.200	0.290	<0.001	0.51
JAN											
09...	<10	250	6.2	0.2	343	150	19	0.220	0.200	<0.001	1.2
MAR											
09...	<10	240	7.4	0.3	333	70	9	0.240	0.190	<0.001	0.71
APR											
03...	<10	200	5.0	0.2	274	85	12	0.100	0.190	<0.001	0.41
MAY											
08...	<10	580	28	0.4	824	10	7	<0.100	0.320	--	--
JUN											
08...	<10	520	12	0.5	706	2	1	0.550	0.440	<0.001	0.36
AUG											
17...	<10	2500	19	--	3340	81	23	<0.100	2.00	<0.001	0.0
SEP											
14...	<10	270	110	0.5	538	2	1	0.150	0.110	<0.001	0.49

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)
OCT											
27...	1.2	--	<0.010	<0.010	12000	11000	<1	50	52	<2.0	<2
DEC											
13...	0.80	1.0	<0.010	<0.010	4500	3900	<1	40	41	<1.0	<0.5
JAN											
09...	1.4	1.6	0.230	<0.010	7200	330	3	80	47	<1.0	<0.5
MAR											
09...	0.90	1.1	0.050	<0.010	5100	1300	<1	40	30	<1.0	<0.5
APR											
03...	0.60	0.70	0.080	0.010	4300	1300	1	50	37	<1.0	<0.5
MAY											
08...	<0.10	--	0.010	<0.010	14000	13000	<1	60	56	2.0	2
JUN											
08...	0.80	1.3	<0.010	<0.010	18000	16000	<1	60	55	4.0	<2
AUG											
17...	2.0	--	0.200	0.200	200000	200000	<1	50	46	26	26
SEP											
14...	0.60	0.75	<0.010	<0.010	11000	10000	<1	90	89	<2.0	<2

03382100 SOUTH FORK SALINE RIVER NEAR CARRIER MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
OCT 27...	930	850	<3	<3	<5	<5	50	40	<5	<5	2900
DEC 13...	700	660	4	3	<5	<5	30	30	<5	<5	11000
JAN 09...	60	<50	<3	<3	8	<5	30	20	8	<5	11000
MAR 09...	<50	<50	<3	<3	<5	<5	20	20	<5	8	10000
APR 03...	60	50	<3	<3	<5	<5	20	20	<5	<5	7100
MAY 08...	350	320	9	8	6	<5	60	60	13	12	6500
JUN 08...	210	180	6	5	<5	<5	70	60	13	11	5600
AUG 17...	<50	<50	45	45	63	40	490	480	67	65	280000
SEP 14...	1800	1700	4	5	<5	<5	30	30	<5	6	970

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
OCT 27...	2600	<5	<5	7100	6300	<0.05	100	95	<3	<3.0
DEC 13...	9800	<5	<5	4400	4100	<0.05	91	84	<3	<3.0
JAN 09...	1600	7	<5	2600	2400	<0.05	48	37	<3	<3.0
MAR 09...	5300	<5	<5	3000	2700	<0.05	41	36	<3	<3.0
APR 03...	1100	<5	<5	2200	2000	0.06	35	33	<3	<3.0
MAY 08...	5400	<5	<5	7600	7200	<0.05	140	130	<3	<3.0
JUN 08...	4100	<5	<5	9200	8400	<0.05	150	130	<3	<3.0
AUG 17...	270000	<5	<5	45000	44000	<0.05	1200	1200	14	11
SEP 14...	560	<5	<5	3800	3600	<0.05	88	87	<3	<3.0

03382100 SOUTH FORK SALINE RIVER NEAR CARRIER MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
OCT										
27...	220	200	130	120	400	390	5.9	--	<5	<1
DEC										
13...	260	250	<5	<5	250	250	3.4	<0.005	<5	1
JAN										
09...	130	120	15	<5	190	140	12	<0.005	5	1
MAR										
09...	110	100	<5	<5	190	190	--	<0.005	5	1
APR										
03...	120	110	<5	<5	170	150	6.6	<0.005	<5	2
MAY										
08...	260	250	<5	<5	430	420	2.8	<0.005	<5	--
JUN										
08...	180	170	<5	<5	640	590	3.9	0.005	<5	<1
AUG										
17...	200	200	28	25	2800	2800	7.6	<0.005	<5	--
SEP										
14...	250	240	<5	<5	270	260	3.0	<0.005	--	--

LUSK CREEK BASIN

03384450 LUSK CREEK NEAR EDDYVILLE, IL

LOCATION.--Lat 37°28'20", long 88°32'50", in SE1/4 sec.16, T.12 S., R.6 E., Pope County, Hydrologic Unit 05140203, on left bank at upstream side of county highway bridge, 2.8 mi southeast of Eddyville and at mile 17.7.

DRAINAGE AREA.--42.9 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WRD IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 360.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--22 years, 60.8 ft^3/s, 19.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,100 ft^3/s, Aug. 24, 1985, gage height, 27.78 ft, from rating curve extended above 23.5 ft based on contracted-opening measurement; no flow for several days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 28	0230	3,000	13.18	Mar. 31	Unknown	3,570	14.52
Feb. 2	2245	3,740	14.84	July 2	1645	*5,220	*17.07
Feb. 13	2215	4,200	15.57				

Minimum daily discharge, 0.11 ft^3/s, Sept. 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	2.0	13	257	40	17	e600	14	1.9	5.9	3.4	.79
2	8.2	1.8	10	178	895	16	e300	12	1.9	1740	2.4	.69
3	3.5	1.7	9.1	120	1270	15	e150	10	2.1	394	1.8	.55
4	2.3	26	7.8	71	e150	19	500	9.8	2.0	119	1.6	.44
5	1.8	51	7.0	100	e70	864	148	10	2.9	58	1.3	.38
6	1.4	13	6.6	511	e45	599	88	9.3	2.9	32	2.5	.30
7	1.0	7.1	6.3	153	e30	121	68	8.2	2.2	20	3.2	.26
8	.83	4.5	5.5	171	e26	62	67	8.1	1.8	14	2.6	.23
9	.87	3.2	5.0	72	e23	e40	57	11	1.5	10	2.0	.26
10	.64	4.0	4.6	51	e20	e30	47	17	1.1	8.0	1.5	.32
11	.49	3.0	4.5	42	e18	e25	40	14	.94	6.9	1.1	.28
12	.39	3.8	4.2	268	e17	e22	36	12	5.6	76	.84	.27
13	.30	4.1	4.1	132	1430	e20	32	11	7.4	175	.63	.22
14	.29	4.1	3.9	291	905	e18	29	10	6.0	35	.46	.41
15	.27	4.0	3.6	247	1550	e70	29	10	4.5	17	.37	.35
16	.33	4.7	3.2	108	528	e45	27	11	3.9	12	.43	.59
17	.34	4.8	3.0	68	129	e35	24	9.8	3.3	8.7	1.1	.70
18	.40	7.2	2.9	52	69	e30	23	8.1	3.4	6.9	2.3	.65
19	.32	465	2.6	41	47	e26	22	7.3	4.1	5.4	1.6	.52
20	.39	682	2.6	34	158	24	20	6.6	4.0	5.2	6.3	.49
21	.47	66	2.2	28	326	e200	19	5.9	3.7	5.4	7.4	.36
22	.43	27	2.7	26	97	e120	18	5.4	3.0	4.9	4.6	.30
23	.86	17	3.4	24	50	e80	17	5.9	16	4.0	3.7	.26
24	.98	12	4.8	22	34	e60	16	5.6	24	3.4	3.1	.17
25	.95	9.6	6.4	21	29	e50	16	4.7	9.8	2.8	2.3	.13
26	.94	457	6.3	122	26	e40	14	4.3	6.4	2.4	2.0	.11
27	1.4	222	103	97	23	e30	13	3.6	4.8	2.3	1.8	.11
28	3.1	50	1070	59	20	e25	73	4.5	16	2.1	1.4	.12
29	3.3	25	153	64	---	e100	26	3.4	19	2.3	1.2	.12
30	3.0	17	82	63	---	e300	17	2.4	8.9	5.2	1.2	.18
31	2.3	---	72	48	---	e1200	---	1.8	---	3.7	.92	---
TOTAL	50.19	2199.6	1615.3	3541	8025	4303	2536	256.7	175.04	2787.5	67.05	10.56
MEAN	1.62	73.3	52.1	114	287	139	84.5	8.28	5.83	89.9	2.16	.35
MAX	8.4	682	1070	511	1550	1200	600	17	24	1740	7.4	.79
MIN	.27	1.7	2.2	21	17	15	13	1.8	.94	2.1	.37	.11
CFSM	.04	1.71	1.21	2.66	6.68	3.24	1.97	.19	.14	2.10	.05	.01
IN.	.04	1.91	1.40	3.07	6.96	3.73	2.20	.22	.15	2.42	.06	.01

CAL YR 1988 TOTAL 13450.81 MEAN 36.8 MAX 1320 MIN .00 CFSM .86 IN. 11.66
WTR YR 1989 TOTAL 25566.94 MEAN 70.0 MAX 1740 MIN .11 CFSM 1.63 IN. 22.17

e Estimated

03384450 LUSK CREEK NEAR EDDYVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1961, 1964, 1969-77 are published in Water-Resources Investigations 78-24 and 79-25 as site AK 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
19...	1200	17002	17002	0.32	170	7.40	11.5	4.3	6.4	18	K70
NOV											
22...	1100	17002	17002	26	94	7.10	7.0	5.6	10.5	9	230
JAN											
17...	1100	17002	17002	69	102	7.00	3.0	1.4	12.6	<1	<10
MAR											
20...	1100	17002	17002	24	102	6.50	8.0	2.1	10.5	3	<10
APR											
18...	1100	17002	17002	21	106	7.50	14.5	2.2	9.8	5	K20
MAY											
23...	1100	17002	17002	6.1	111	7.50	20.0	0.60	7.5	5	K10
JUN											
19...	1100	17002	17002	4.1	129	6.90	21.0	0.90	7.1	7	K70
JUL											
31...	1100	17002	17002	3.6	98	7.20	24.5	2.0	6.1	6	K50
AUG											
24...	1100	17002	17002	3.2	130	6.70	25.0	2.2	5.1	14	K20

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT											
19...	63	6	--	17	16	6.0	5.6	4.2	4.1	1.6	1.5
NOV											
22...	36	26	--	9.0	8.3	3.9	3.6	2.6	2.4	1.0	0.92
JAN											
17...	28	0	--	7.2	6.5	3.2	2.9	2.5	2.3	0.4	0.34
MAR											
20...	32	13	<1.0	9.5	8.0	3.5	2.9	2.6	2.5	0.6	0.51
APR											
18...	32	10	--	9.7	8.2	3.5	2.9	2.6	2.4	1.2	0.87
MAY											
23...	33	6	--	10	8.9	2.9	2.5	2.8	2.5	1.4	1.4
JUN											
19...	50	25	--	14	13	4.5	4.3	3.3	3.2	1.4	1.3
JUL											
31...	39	17	--	9.6	9.1	4.1	3.9	2.4	2.2	1.9	2.2
AUG											
24...	53	15	--	14	14	4.7	4.3	2.7	2.7	2.2	2.4

03384450 LUSK CREEK NEAR EDDYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 19...	57	11	3.2	<0.1	76	3	3	<0.100	<0.100	<0.001	--
NOV 22...	10	23	2.1	<0.1	47	3	1	0.200	<0.100	<0.001	--
JAN 17...	67	23	2.3	<0.1	78	1	<1	0.100	<0.100	<0.001	--
MAR 20...	19	22	1.3	<0.1	49	2	1	0.140	0.220	<0.001	--
APR 18...	23	26	1.4	<0.1	56	4	1	<0.100	<0.100	<0.001	--
MAY 23...	27	22	1.5	<0.1	55	2	<1	<0.100	0.120	0.002	0.08
JUN 19...	25	27	1.9	<0.1	66	1	1	0.110	<0.100	<0.001	--
JUL 31...	22	22	1.5	<0.1	54	6	3	<0.100	<0.100	<0.001	--
AUG 24...	38	20	<1.0	0.1	--	2	<1	<0.100	<0.100	<0.001	--

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)
OCT 19...	0.40	--	0.010	<0.010	60	<50	1	60	49	<0.5	<0.5
NOV 22...	0.10	0.30	0.020	<0.010	290	<50	<1	50	39	<0.5	<0.5
JAN 17...	<0.10	--	<0.010	<0.010	130	<50	<1	40	34	<0.5	<0.5
MAR 20...	<0.10	--	0.002	<0.010	<50	<50	<1	<5	<5	<0.5	<0.5
APR 18...	0.40	--	0.020	0.010	120	<50	<1	40	33	<0.5	<0.5
MAY 23...	0.20	--	0.010	0.010	220	170	<1	50	42	<0.5	<0.5
JUN 19...	<0.10	--	0.010	<0.010	320	220	<1	50	43	<0.5	<0.5
JUL 31...	0.50	--	0.010	0.010	110	<50	<1	50	44	<0.5	<0.5
AUG 24...	0.20	--	0.010	0.010	<50	<50	<1	50	49	<0.5	<0.5

03384450 LUSK CREEK NEAR EDDYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
19...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
NOV										
22...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JAN										
17...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
MAR										
20...	<50	<50	<3	<3	<5	<5	<10	<10	<5	<5
APR										
18...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
MAY										
23...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JUN										
19...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JUL										
31...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
AUG										
24...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)
OCT										
19...	520	200	<5	<5	190	160	0.07	<5	7	<3
NOV										
22...	460	67	<5	<5	84	71	<0.05	<5	<5	<3
JAN										
17...	200	<50	<5	<5	38	35	<0.05	<5	<5	<3
MAR										
20...	260	<50	<5	<5	82	68	<0.05	<5	<5	<5
APR										
18...	380	84	<5	<5	86	70	<0.05	<5	6	<3
MAY										
23...	290	81	<5	<5	100	70	<0.05	<5	<5	<3
JUN										
19...	440	220	<5	<5	140	120	<0.05	<5	<5	<3
JUL										
31...	350	100	<5	<5	150	130	<0.05	13	13	<3
AUG										
24...	410	130	<5	<5	200	170	<0.05	37	<5	<3

03384450 LUSK CREEK NEAR EDDYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT										
19...	<3.0	90	85	<10	<10	<50	<50	<0.005	<5	1
NOV										
22...	<3.0	50	44	<5	<5	<50	<50	<0.005	<5	--
JAN										
17...	<3.0	40	39	<5	<5	<50	<50	<0.005	<5	1
MAR										
20...	<5.0	50	42	<10	<10	<50	<50	<0.005	<5	3
APR										
18...	<3.0	50	43	<5	<5	<50	<50	<0.005	<5	1
MAY										
23...	<3.0	70	57	<5	<5	<100	<100	<0.005	<5	<1
JUN										
19...	<3.0	70	71	<5	<5	<50	<50	0.005	<5	<1
JUL										
31...	<3.0	60	55	<5	<5	<50	<50	<0.005	<5	--
AUG										
24...	<3.0	80	74	<5	<5	170	<100	<0.005	<5	--

03611500 OHIO RIVER AT METROPOLIS, IL

LOCATION.--Lat 37°08'51", long 88°44'27", McCracken County, Hydrologic Unit 05140206, near center of span on downstream side of pier of Paducah & Illinois Railroad bridge at Metropolis, 9.5 mi downstream from Tennessee River, 37 mi upstream from mouth, and at mile 944.1.

DRAINAGE AREA.--203,000 mi^2, approximately.

PERIOD OF RECORD.--January 1928 to current year. Prior to January 1934 monthly discharge only, published in WSP 1305. Gage-height records collected 9.6 mi upstream at Paducah since 1890 are contained in reports of National Weather Service. Occasional discharge measurements 1881 to 1924 in reports of Mississippi River Commission.

GAGE.--Water-stage recorder. Datum of gage is 276.27 ft above National Geodetic Vertical Datum of 1929. Prior to Dec.22, 1936, water-stage recorders (temporary installations) at Paducah, Ky., Metropolis and Joppa, Il., and Dam 52. Auxiliary water-stage recorder near Grand Chain, 0.5 mi upstream from Dam 53, and 18 mi downstream from base gage. Prior to May 29, 1936, auxiliary nonrecording gage at Dam 53.

REMARKS.--Estimated daily discharges: Nov. 30 to Dec. 3, Dec. 7, 9, 10, 15, 18-21. Records good except those below 100,000 ft^3/s and for estimated daily discharges, which are fair. Flow regulated by many dams and reservoirs. Specific conductance and temperature measurements made in conjunction with discharge measurements are published in the miscellaneous water-quality data section.

AVERAGE DISCHARGE.--61 years, 270,900 ft^3/s, 18.12 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780,000 ft^3/s, Feb. 1, 1937, total discharge, including overflow through Bay Creek and Cache River Valleys, 1,850,000 ft^3/s; maximum gage height, 66.60 ft, Feb. 2, 1937; minimum daily discharge, 15,000 ft^3/s, July 30, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060,000 ft^3/s, Feb. 24; maximum gage height, 52.61 ft; minimum daily discharge, 32,200 ft^3/s, Nov. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85500	38800	280000	528000	260000	973000	523000	302000	412000	499000	207000	184000
2	57800	32200	241000	495000	266000	960000	540000	349000	397000	523000	206000	193000
3	53800	58800	213000	453000	333000	926000	581000	392000	344000	596000	188000	201000
4	46100	53400	202000	411000	366000	875000	657000	435000	288000	579000	146000	190000
5	58200	66500	202000	374000	406000	822000	715000	484000	264000	545000	152000	162000
6	54900	81800	194000	362000	444000	817000	774000	448000	264000	525000	170000	155000
7	52700	82900	155000	358000	490000	815000	809000	438000	286000	507000	167000	150000
8	57000	118000	158000	377000	500000	825000	806000	442000	306000	463000	170000	155000
9	60000	140000	158000	395000	495000	844000	792000	449000	325000	438000	180000	156000
10	58100	154000	149000	431000	460000	841000	795000	456000	318000	417000	153000	169000
11	45400	137000	138000	494000	374000	834000	801000	470000	316000	375000	108000	201000
12	52600	144000	143000	557000	307000	821000	824000	489000	322000	344000	95800	166000
13	49200	150000	150000	641000	317000	824000	822000	496000	350000	345000	99000	125000
14	50600	147000	114000	710000	493000	821000	800000	503000	404000	337000	91600	172000
15	57500	137000	104000	762000	666000	800000	764000	513000	462000	317000	95900	178000
16	61000	128000	111000	814000	766000	768000	714000	514000	514000	321000	100000	187000
17	66300	134000	104000	843000	784000	708000	643000	523000	556000	293000	104000	221000
18	68700	139000	104000	829000	773000	613000	543000	531000	579000	218000	108000	250000
19	66000	175000	96900	824000	791000	518000	424000	524000	595000	193000	115000	285000
20	61000	269000	89100	806000	811000	441000	307000	503000	626000	211000	112000	315000
21	34000	352000	82900	774000	867000	405000	263000	467000	655000	229000	118000	317000
22	41600	423000	94000	741000	947000	402000	250000	460000	679000	222000	152000	279000
23	75600	448000	130000	812000	1020000	451000	246000	471000	695000	212000	179000	259000
24	77300	467000	213000	498000	1040000	481000	248000	459000	697000	230000	202000	259000
25	64100	482000	245000	330000	1020000	513000	237000	418000	686000	219000	202000	266000
26	61300	470000	330000	263000	1010000	539000	218000	392000	667000	197000	208000	295000
27	64900	473000	419000	253000	993000	557000	186000	377000	652000	195000	223000	320000
28	71700	422000	536000	248000	987000	563000	190000	370000	634000	186000	245000	327000
29	70100	363000	565000	248000	---	559000	218000	401000	601000	147000	245000	302000
30	55300	313000	581000	250000	---	556000	258000	411000	549000	187000	224000	280000
31	49400	---	563000	252000	---	554000	---	423000	---	225000	188000	---
TOTAL	1827700	6599400	6864900	16133000	17986000	21426000	15948000	13910000	14443000	10295000	4954300	6719000
MEAN	58960	220000	221400	520400	642400	691200	531600	448700	481400	332100	159800	224000
MAX	85500	482000	581000	843000	1040000	973000	824000	531000	697000	596000	245000	327000
MIN	34000	32200	82900	248000	260000	402000	186000	302000	264000	147000	91600	125000

CAL YR 1988 TOTAL 62363000 MEAN 170400 MAX 621000 MIN 20600
WTR YR 1989 TOTAL 137106300 MEAN 375600 MAX 1040000 MIN 32200

03612000 CACHE RIVER AT FORMAN, IL

LOCATION.--Lat 37°20'11", long 88°55'26", in NE1/4NW1/4 sec.6, T.14 S., R.3 E., Johnson County, Hydrologic Unit 05140206, at downstream side of highway bridge, 1.2 mi southwest of Forman and at mile 8.1.

DRAINAGE AREA.--244 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1922 to July 1924, September 1924 to current year.

REVISED RECORDS.--WSP 623: 1923-24. WSP 823: 1934-35. WSP 1205: 1923-24, 1927-30. WSP 1335: 1923(M), 1925, 1926-27(M), 1928, 1929-30(M), 1931, 1933, 1934-36(M), 1937-39. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 318.47 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1958, to Dec. 30, 1971, nonrecording gage at same site and datum. See WSP 1705 or 1725 for history of changes prior to Sept. 30, 1958.

REMARKS.--Water-discharge records good except those for periods of backwater from Ohio River; Feb. 24 to Mar. 4 and Apr. 12-15, which are fair. Flow of lower part of Cache River basin was diverted from Ohio River to Mississippi River beginning Oct. 31, 1950, through diversion channel of Mounds-Mound City flood-protection project. Flow of upper part of Cache River basin, including flow past this station, continued to discharge to Ohio River, passing through Post Creek cutoff directly to Ohio River instead of through the original channel of Cache River.

AVERAGE DISCHARGE.--65 years (water years 1925-89), 300 ft^3/s, 16.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,630 ft^3/s, Mar. 12, 1935, gage height, 17.99 ft, site and datum then in use, from graph based on gage readings; no flow at times.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 5	0830	2,770	15.88	Mar. 31	0530	2,050	13.25
Feb. 16	1200	*5,080	*22.23	Apr. 4	1045	2,260	14.03
Mar. 6	0630	2,210	13.85				

Minimum daily discharge, 0.96 ft^3/s, Oct. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	18	283	860	356	446	1870	94	8.9	96	6.5	4.7
2	11	10	188	776	563	375	1470	49	8.1	154	5.3	5.2
3	73	7.1	134	681	2170	318	1430	34	8.7	393	4.1	4.3
4	46	5.2	83	565	2360	468	2170	29	9.5	194	3.7	3.4
5	19	43	54	459	2720	1940	1920	30	11	139	3.8	2.9
6	10	135	41	1080	2360	2200	1470	29	94	163	22	2.7
7	6.1	96	34	784	1720	2070	1300	30	94	118	46	2.3
8	4.5	47	30	758	1090	1850	1100	27	29	60	23	2.2
9	4.6	26	27	703	729	1450	880	59	17	36	8.4	2.1
10	3.2	17	25	691	526	1160	699	122	13	27	4.9	2.6
11	2.2	12	21	695	432	967	553	162	9.8	20	3.5	20
12	2.2	8.2	18	758	355	832	430	81	233	19	2.8	9.5
13	1.9	9.1	17	654	1130	717	353	45	712	23	2.4	6.1
14	1.2	9.8	17	668	2390	597	275	33	703	13	2.0	6.0
15	1.3	9.3	15	827	3590	491	213	26	528	17	1.8	23
16	1.5	11	15	631	4960	387	156	23	507	15	1.8	43
17	1.4	17	14	514	4430	301	128	20	374	11	2.4	29
18	.96	46	14	384	3140	221	109	18	344	8.4	9.7	13
19	1.3	699	14	294	2200	165	104	16	542	6.7	11	6.6
20	1.5	1380	15	215	1600	219	90	15	512	5.9	9.8	4.1
21	2.0	756	14	148	1690	985	81	14	439	5.8	7.9	3.3
22	3.3	542	15	114	1230	593	70	13	244	5.7	6.0	2.7
23	5.4	483	18	101	1040	405	63	13	120	5.4	4.5	2.2
24	8.6	356	63	97	920	279	57	15	113	6.2	4.9	1.9
25	10	237	196	95	750	222	51	25	103	7.6	49	1.7
26	17	444	145	449	629	186	44	21	69	6.0	42	1.4
27	16	910	92	743	564	157	39	16	36	5.1	21	1.1
28	99	552	1350	624	509	141	34	13	77	4.7	12	.99
29	106	493	1130	646	---	261	33	11	219	4.2	8.3	.97
30	98	419	729	624	---	1010	77	9.3	233	5.9	5.7	1.2
31	40	---	730	497	---	1970	---	7.9	---	9.3	4.5	---
TOTAL	603.66	7797.7	5541	17135	46153	23383	17269	1100.2	6411.0	1584.9	340.7	210.16
MEAN	19.5	260	179	553	1648	754	576	35.5	214	51.1	11.0	7.01
MAX	106	1380	1350	1080	4960	2200	2170	162	712	393	49	43
MIN	.96	5.2	14	95	355	141	33	7.9	8.1	4.2	1.8	.97
CFSM	.08	1.07	.73	2.27	6.76	3.09	2.36	.15	.88	.21	.05	.03
IN.	.09	1.19	.84	2.61	7.04	3.56	2.63	.17	.98	.24	.05	.03

CAL YR 1988 TOTAL 58305.83 MEAN 159 MAX 1800 MIN .56 CFSM .65 IN. 8.89
WTR YR 1989 TOTAL 127529.32 MEAN 349 MAX 4960 MIN .96 CFSM 1.43 IN. 19.44

03612000 CACHE RIVER AT FORMAN, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site AD 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV 09...	1100	17002	17002	26	260	7.50	10.0	13	7.9	29	K150
DEC 12...	1100	17002	17002	19	286	6.60	1.0	16	11.8	13	K40
FEB 01...	1100	17002	17002	356	202	7.10	8.0	29	9.1	22	4200
MAR 02...	1100	17002	17002	375	199	6.90	4.0	14	7.6	12	K30
APR 06...	1100	17002	17002	1470	124	6.50	11.5	69	6.6	25	330
MAY 22...	1100	17002	17002	14	331	7.40	21.0	7.4	6.0	14	K30
JUN 14...	1100	17002	17002	703	146	6.90	21.0	55	5.7	45	K300
JUL 18...	1100	17002	17002	9.1	270	7.50	24.0	19	6.4	20	K80
AUG 23...	1100	17002	17002	5.0	282	7.60	26.5	15	7.0	36	K20

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
NOV 09...	100	100	32	29	7.9	6.7	11	10	4.6	3.8	10
DEC 12...	100	100	33	30	7.5	6.8	11	9.7	2.7	2.3	9.8
FEB 01...	65	65	22	19	4.7	4.2	7.5	7.2	1.8	1.5	7.7
MAR 02...	84	84	28	26	5.1	4.6	8.1	7.7	1.6	1.4	6.6
APR 06...	39	39	15	12	3.1	2.2	3.6	3.1	3.2	2.9	3.2
MAY 22...	110	110	40	34	6.2	5.3	13	12	2.1	1.4	10
JUN 14...	51	51	20	16	4.6	2.7	4.5	3.9	4.6	2.2	4.4
JUL 18...	100	100	34	31	7.0	6.3	10	9.7	4.1	3.3	9.2
AUG 23...	98	98	32	29	6.9	6.2	13	12	5.1	4.9	12

03612000 CACHE RIVER AT FORMAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)
NOV											
09...	28	2	0.240	<0.100	<0.001	0.280	0.130	3000	<50	70	43
DEC											
12...	6	2	0.740	<0.100	<0.001	0.120	0.030	450	<50	50	41
FEB											
01...	42	5	0.300	0.100	<0.001	0.180	0.050	960	<50	60	39
MAR											
02...	13	2	0.540	<0.100	<0.001	0.090	0.030	570	60	50	37
APR											
06...	51	4	0.150	0.290	<0.001	0.220	0.050	2700	110	60	31
MAY											
22...	42	5	0.440	<0.100	<0.001	0.100	0.040	1200	110	90	63
JUN											
14...	222	20	1.80	0.320	0.001	0.410	0.100	8400	270	100	36
JUL											
18...	63	8	0.250	<0.100	<0.002	0.130	0.040	1300	<50	80	61
AUG											
23...	31	3	0.220	<0.100	<0.003	0.080	0.030	740	<50	80	60

DATE	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
NOV										
09...	<0.5	<0.5	<50	50	<3	<3	<5	<5	<5	<5
DEC										
12...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
FEB										
01...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
MAR										
02...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
APR										
06...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
MAY										
22...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
JUN										
14...	<2.0	<0.5	<50	<50	<3	<3	11	<5	6	<5
JUL										
18...	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
AUG										
23...	<0.5	<0.5	50	<50	<3	<3	<5	<5	<5	<5

03612000 CACHE RIVER AT FORMAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV 09...	<5	<5	3600	130	<5	<5	280	180	<0.05	<5
DEC 12...	<5	<5	1300	130	<5	<5	170	140	0.07	<5
FEB 01...	<5	<5	2000	150	<5	<5	190	110	<0.05	6
MAR 02...	<5	<5	1100	69	<5	<5	130	100	<0.05	8
APR 06...	<5	<5	3900	180	<5	<5	150	52	<0.05	<5
MAY 22...	<5	<5	1600	<50	<5	<5	360	190	<0.05	<5
JUN 14...	12	<5	12000	120	8	<5	640	53	0.39	9
JUL 18...	<5	<5	1900	<50	<5	<5	380	210	<0.05	<5
AUG 23...	<5	<5	1200	<50	18	<5	320	210	<0.05	46

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)
NOV 09...	<5	<3	<3.0	230	200	7	<5	<50	<50	<0.005
DEC 12...	<5	<3	<3.0	250	220	<5	<5	<50	<50	<0.005
FEB 01...	<5	<3	<3.0	130	110	<5	<5	<50	<50	<0.005
MAR 02...	<5	<3	<3.0	140	130	<5	<5	<50	<50	<0.005
APR 06...	<5	<3	<3.0	80	62	8	<5	<50	<50	<0.005
MAY 22...	<5	<3	<3.0	220	190	<5	<5	<50	<50	<0.005
JUN 14...	5	<3	<3.0	100	79	22	<5	<50	<50	0.005
JUL 18...	<5	<3	<3.0	180	170	<5	<5	<50	<50	0.005
AUG 23...	41	<3	<3.0	180	160	<5	<5	<100	<100	<0.005

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL
(National stream-quality accounting network station)

LOCATION.--Lat 37°12'11", long 89°02'30", Pulaski County, Hydrologic Unit 05140206, at auxiliary gaging station, 0.5 mi upstream from Gar Creek, 3.0 mi southwest of Grand Chain, 18.1 mi downstream from gaging station at Metropolis, and at mile 962.2.

DRAINAGE AREA.--203,100 mi^2, approximately.

PERIOD OF RECORD.--Water years 1955 to current year.

REMARKS.--Records of discharge are published for station at Metropolis (station 03611500). Flow regulated by many dams and reservoirs.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT												
11...	1000	17002	17002	42200	295	7.20	19.5	1.3	7.5	11	<10	--
11...	1040	1028	80020	42200	295	7.20	19.5	3.6	7.5	--	--	--
DEC												
29...	1015	1028	80020	565000	323	8.16	7.0	83	12.7	--	--	97
FEB												
28...	1100	1028	80020	575000	205	8.65	5.0	78	12.2	--	--	K74
APR												
12...	1000	17002	17002	825000	258	7.30	10.5	38	9.4	13	K120	--
12...	1030	1028	80020	825000	258	7.30	10.5	58	9.5	--	--	100
JUN												
13...	1110	1028	80020	340000	304	7.70	23.5	57	3.4	--	--	300
AUG												
21...	1045	1028	80020	111000	265	6.78	27.0	6.5	3.1	--	--	150

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT											
11...	--	85	22	26	22	8.5	7.2	21	22	2.0	1.7
11...	--	100	39	--	27	--	8.1	--	19	--	2.6
DEC											
29...	270	120	49	--	35	--	8.4	--	14	--	2.7
FEB											
28...	210	88	31	--	26	--	5.5	--	6.2	--	1.9
APR											
12...	--	93	36	32	27	7.4	6.1	6.9	6.1	2.1	1.3
12...	K30	110	41	--	32	--	7.1	--	6.9	--	2.2
JUN											
13...	790	130	40	--	36	--	9.0	--	8.6	--	2.4
AUG											
21...	57	110	29	--	30	--	7.4	--	9.7	--	2.4

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
OCT											
11...	--	--	63	40	21	0.1	--	--	--	152	7
11...	82	67	62	45	20	--	0.10	2.0	165	163	--
DEC											
29...	89	73	73	50	15	--	0.20	4.8	189	181	--
FEB											
28...	--	--	57	32	8.8	--	0.10	5.4	118	125	--
APR											
12...	--	--	57	33	9.5	<0.1	--	--	--	117	103
12...	--	--	68	37	9.4	--	0.20	5.8	151	148	--
JUN											
13...	--	--	87	39	11	--	0.10	4.7	159	171	--
AUG											
21...	--	--	77	31	11	--	0.10	3.9	162	144	--

DATE	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)
OCT											
11...	1	0.450	--	<0.100	<0.001	--	--	0.50	0.95	0.050	0.040
11...	--	--	0.420	0.110	--	0.090	0.29	0.40	--	0.050	0.050
DEC											
29...	--	--	1.50	0.150	--	0.160	0.95	1.1	--	0.080	0.070
FEB											
28...	--	--	1.00	0.110	--	0.070	0.59	0.70	--	0.340	0.050
APR											
12...	10	1.30	--	<0.100	<0.001	--	--	0.60	1.9	0.230	0.040
12...	--	--	1.50	0.060	--	0.040	0.44	0.50	--	0.230	0.050
JUN											
13...	--	--	1.70	0.030	--	0.030	0.67	0.70	--	0.110	0.050
AUG											
21...	--	--	0.570	0.090	--	0.090	0.41	0.50	--	0.100	0.060

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)
OCT											
11...	120	<50	1	--	30	24	<0.5	<0.5	50	<50	<3
11...	--	20	--	1	--	41	--	<0.5	--	--	--
DEC											
29...	--	30	--	1	--	37	--	<0.5	--	--	--
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
APR											
12...	2000	60	2	--	50	23	<0.5	<0.5	<50	<50	<3
12...	--	50	--	<1	--	39	--	<0.5	--	--	--
JUN											
13...	--	40	--	<1	--	50	--	<0.5	--	--	--
AUG											
21...	--	--	--	--	--	--	--	--	--	--	--

DATE	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT											
11...	<3	<5	<5	<5	<5	<5	<5	180	<50	<5	<5
11...	<1	--	<1	--	<3	--	3	--	110	--	<5
DEC											
29...	<1	--	<1	--	<3	--	2	--	37	--	<5
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
APR											
12...	<3	<5	<5	<5	<5	<5	<5	3500	110	6	<5
12...	<1	--	2	--	<3	--	3	--	76	--	<5
JUN											
13...	<1	--	<1	--	<3	--	2	--	200	--	1
AUG											
21...	--	--	--	--	--	--	--	--	--	--	--

03612500 OHIO RIVER AT LOCK AND DAM 53, NEAR GRAND CHAIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
OCT											
11...	49	6	<0.05	--	<5	<5	--	<3	<3.0	140	110
11...	--	9	--	0.3	--	<1	<1	--	<1.0	--	140
DEC											
29...	--	6	--	--	--	3	<1	--	<1.0	--	170
FEB											
28...	--	--	--	--	--	--	--	--	--	--	--
APR											
12...	230	6	<0.05	--	<5	<5	--	<3	<3.0	130	110
12...	--	6	--	<0.1	--	3	<1	--	<1.0	--	130
JUN											
13...	--	5	--	--	--	1	<1	--	<1.0	--	160
AUG											
21...	--	--	--	--	--	--	--	--	--	--	--

DATE	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT											
11...	<5	<5	<50	<50	4.3	<0.005	<5	2	--	--	--
11...	--	<6	--	9	--	--	--	--	7	798	78
DEC											
29...	--	<6	--	8	--	--	--	--	200	305000	92
FEB											
28...	--	--	--	--	--	--	--	--	110	171000	86
APR											
12...	<5	<5	<50	<50	6.2	<0.005	<5	1	--	--	--
12...	--	<6	--	4	--	--	--	--	125	278000	--
JUN											
13...	--	<6	--	6	--	--	--	--	91	83500	84
AUG											
21...	--	--	--	--	--	--	--	--	20	5990	69

SINSINAWA RIVER BASIN

05414820 SINSINAWA RIVER NEAR MENOMINEE, IL

LOCATION.--Lat 42°28'44", long 90°29'10", in SE1/4SE1/4 sec.28, T.29 N., R.1 W., Jo Daviess County, Hydrologic Unit 07060005, on left bank at downstream side of High Ridge Road bridge, 2.4 mi east of Menominee, 4.5 mi northwest of Galena, and at mile 7.0.

DRAINAGE AREA.--39.6 mi^2.

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR IL-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 640.75 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 27.8 ft^3/s, 9.53 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s, June 29, 1969, gage height, 13.34 ft, from rating curve extended on basis of contracted-opening measurement and flow over road at gage height 13.34 ft; no flow for part of Dec. 25, 1988, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	1545	*2,340	*8.75	No other peak greater than base discharge.			

No flow for part of Dec. 25, result of freezeup.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	13	10	12	25	e11	11	11	11	8.8	8.8	42
2	12	13	10	9.7	13	e10	12	11	9.2	9.0	8.6	13
3	12	13	11	e8.5	11	e15	12	11	10	9.1	8.5	8.8
4	13	14	9.6	e8.0	e10	99	11	11	10	8.8	8.9	8.0
5	13	16	9.8	e9.0	e10	45	11	12	9.8	8.5	33	8.0
6	12	14	10	e12	e9.5	15	11	10	9.8	8.5	11	8.2
7	12	13	11	e15	e9.5	14	11	9.9	10	8.7	8.3	8.3
8	13	13	8.7	e18	e10	19	11	9.5	11	8.5	7.8	9.1
9	13	13	9.3	e12	e10	164	10	11	11	8.5	7.8	15
10	13	15	8.3	e10	e11	587	10	10	11	8.5	7.6	11
11	13	12	7.1	e30	13	216	10	9.5	10	8.4	7.9	8.8
12	13	14	7.8	71	13	43	11	9.5	18	11	8.2	8.0
13	12	16	10	17	14	19	10	9.8	16	8.6	8.0	8.0
14	12	13	12	13	12	e21	11	10	11	7.6	8.5	8.0
15	13	13	7.5	12	13	e22	11	11	9.8	7.6	8.8	7.4
16	13	14	7.1	13	11	e16	11	11	9.9	7.8	8.6	7.1
17	14	12	9.8	13	11	e14	12	11	9.8	7.7	8.5	7.1
18	14	12	9.6	12	12	e12	12	11	9.7	12	8.2	6.9
19	13	12	10	85	12	e14	11	11	9.5	14	8.4	6.8
20	12	12	13	40	12	e16	11	13	9.1	11	12	7.1
21	14	11	9.7	16	12	e13	12	9.0	8.8	9.2	9.5	7.0
22	12	11	9.8	85	11	e13	11	9.0	9.1	9.5	9.0	7.7
23	15	11	11	95	e10	e13	12	9.0	9.3	8.8	9.5	7.4
24	13	12	10	41	e10	e14	11	9.0	9.1	9.2	9.5	7.4
25	12	12	7.8	19	e10	e13	11	9.8	9.1	8.8	9.1	7.6
26	11	17	10	27	e11	e12	11	9.0	9.0	8.6	11	7.6
27	12	16	87	42	e10	e12	12	8.9	9.2	8.1	18	7.6
28	12	12	20	43	e12	e14	14	9.1	8.7	8.0	10	7.4
29	12	11	13	177	---	e15	13	9.5	8.4	8.8	9.6	8.0
30	12	11	12	62	---	e13	11	9.5	8.5	10	8.6	8.3
31	13	---	12	44	---	12	---	10	---	9.1	9.4	---
TOTAL	392	391	393.9	1071.2	328.0	1516	338	315.0	304.8	280.7	310.6	282.6
MEAN	12.6	13.0	12.7	34.6	11.7	48.9	11.3	10.2	10.2	9.05	10.0	9.42
MAX	15	17	87	177	25	587	14	13	18	14	33	42
MIN	11	11	7.1	8.0	9.5	10	10	8.9	8.4	7.6	7.6	6.8
CFSM	.32	.33	.32	.87	.30	1.23	.28	.26	.26	.23	.25	.24
IN.	.37	.37	.37	1.01	.31	1.42	.32	.30	.29	.26	.29	.27

CAL YR 1988 TOTAL 6695.9 MEAN 18.3 MAX 270 MIN 7.1 CFSM .46 IN. 6.29
WTR YR 1989 TOTAL 5923.8 MEAN 16.2 MAX 587 MIN 6.8 CFSM .41 IN. 5.56

e Estimated

05418950 APPLE RIVER NEAR ELIZABETH, IL

LOCATION.--Lat 42°19'07", long 90°15'15", in NW1/4SW1/4 sec.23, T.27 N., R.2 E., Jo Daviess County, Hydrologic Unit 07060005, at bridge on U.S. Highway 20, 0.3 mi downstream from Furnace Creek, 1.8 mi west of Elizabeth, 4.2 mi upstream from right-bank tributary flowing from Irish Hollow, and at mile 23.1.

DRAINAGE AREA.--207 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemcial data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site MN 03.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 12...	0830	17002	17002	25	624	7.90	7.5	4.9	10.6	21	K710
NOV 16...	1030	17002	17002	40	629	7.50	7.5	52	6.1	34	K66000
JAN 24...	1200	17002	17002	130	394	7.80	1.0	20	10.0	89	K1300
FEB 17...	1230	17002	17002	36	675	8.00	0.0	1.5	10.9	3	K20
MAR 29...	1230	17002	17002	86	571	8.00	11.5	6.6	8.7	13	K3900
MAY 18...	0930	17002	17002	28	602	7.50	18.5	3.6	6.8	15	K820
JUN 19...	1430	17002	17002	220	637	7.80	25.5	24	7.6	8	460
AUG 08...	0940	17002	17002	270	596	7.80	19.5	15	7.4	17	K4000

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT 12...	370	370	76	75	46	45	6.5	6.5	1.4	1.3
NOV 16...	350	350	71	70	44	43	7.2	7.2	4.0	3.7
JAN 24...	170	170	38	36	21	20	5.9	5.8	6.1	5.8
FEB 17...	350	350	71	70	43	42	7.6	7.4	1.7	1.6
MAR 29...	290	290	64	60	37	35	7.7	7.4	3.7	3.0
MAY 18...	340	340	65	63	45	44	7.7	7.8	2.9	1.5
JUN 19...	330	330	67	63	43	41	8.8	8.5	1.9	0.92
AUG 08...	310	310	61	60	39	38	10	10	5.4	5.2

05418950 APPLE RIVER NEAR ELIZABETH, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT										
12...	10	8	1.70	0.040	<0.001	0.090	0.030	410	<50	60
NOV										
16...	61	13	1.60	0.710	0.004	0.560	0.320	1500	170	70
JAN										
24...	60	13	1.60	1.80	0.011	0.980	0.720	1100	50	60
FEB										
17...	1	1	2.40	0.250	0.002	0.120	0.110	140	<50	60
MAR										
29...	67	10	1.90	0.120	0.003	0.240	0.150	940	110	80
MAY										
18...	38	7	0.600	0.190	0.002	0.130	0.050	1500	470	90
JUN										
19...	45	11	0.800	0.260	0.010	0.180	0.110	1200	90	100
AUG										
08...	46	6	0.800	0.150	0.004	0.210	0.130	730	90	90

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT										
12...	52	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV										
16...	51	<0.5	<0.5	<50	<50	<3	<3	5	<5	<5
JAN										
24...	41	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB										
17...	53	<0.5	<0.5	<50	<50	<3	<3	<5	6	<5
MAR										
29...	65	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY										
18...	73	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
JUN										
19...	76	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG										
08...	80	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05418950 APPLE RIVER NEAR ELIZABETH, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 12...	<5	<5	<5	620	<50	<5	<5	56	27	<0.05
NOV 16...	<5	<5	<5	1600	<50	<5	<5	110	55	<0.05
JAN 24...	<5	5	<5	1500	100	<5	<5	160	66	<0.05
FEB 17...	<5	<5	<5	170	<50	<5	<5	43	40	<0.05
MAR 29...	<5	<5	<5	1100	<50	<5	<5	150	91	<0.05
MAY 18...	<5	<5	<5	1400	83	<5	<5	210	150	<0.05
JUN 19...	<5	<5	<5	1400	<50	<5	<5	130	72	<0.05
AUG 08...	<5	<5	<5	1000	<50	<5	<5	120	58	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 12...	<5	<5	<3	<3.0	60	56	<5	<5	<50	<50
NOV 16...	<5	<5	<3	<3.0	60	63	<5	<5	<50	<50
JAN 24...	6	<5	<3	<3.0	40	33	<5	<5	<50	<50
FEB 17...	<5	5	<3	<3.0	60	57	<5	<5	<50	<50
MAR 29...	<5	<5	<3	<3.0	60	57	<5	<5	<50	<50
MAY 18...	10	6	<3	<3.0	50	52	<5	<5	<50	<50
JUN 19...	6	<5	<3	<3.0	60	53	<5	<5	<50	<50
AUG 08...	<10	<10	<3	<3.0	60	58	5	<5	<100	<100

APPLE RIVER BASIN

05419000 APPLE RIVER NEAR HANOVER, IL

LOCATION.--Lat 42°15'05", long 90°17'10", in NE1/4NW1/4 sec.16, T.26 N., R.2 E., Jo Daviess County, Hydrologic Unit 07060005, on right bank, 0.3 mi southwest of Hanover and at mile 13.9.

DRAINAGE AREA.--247 mi^2.

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1005: 1939, 1941(M). WSP 1308: 1935-38(M), 1943-45(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 591.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1945, nonrecording gage at site 3.5 mi downstream at datum 9.48 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Occasional regulation during low flow by dam at Hanover. Gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years, 176 ft^3/s, 9.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft^3/s, Jan. 5, 1946; maximum gage height, 26.12 ft Jan. 5, 1946, ice jam; no flow for part of each day May 23, 24, 1967, result of temporary closure of gate at dam at Hanover.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0230	*3,080	*11.82	No other peak greater than base discharge.			

Minimum discharge, 14 ft^3/s, May 24, July 8, 18, result of temporary closure of gate at dam at Hanover.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	35	37	50	176	118	65	48	64	19	23	351
2	35	34	36	e42	91	42	64	46	40	20	21	153
3	31	34	35	e38	72	49	61	43	40	21	20	66
4	30	36	36	e36	e64	608	59	42	39	19	26	46
5	30	37	35	e35	e58	346	55	43	35	16	86	38
6	30	37	35	e41	e65	152	52	40	32	16	76	35
7	30	38	37	e54	e80	102	49	38	28	16	48	32
8	31	38	34	e82	e90	85	49	38	27	16	32	36
9	32	40	e30	e64	e95	125	46	42	27	16	27	61
10	34	49	e27	e45	e100	958	43	38	25	16	25	60
11	31	45	e25	59	e85	2300	41	35	25	17	24	53
12	30	45	e27	146	e68	1400	41	33	42	18	20	42
13	30	45	30	96	e56	179	38	33	52	19	20	40
14	32	44	32	67	e52	188	40	32	40	18	22	35
15	33	41	e28	54	e48	206	38	32	33	18	22	33
16	40	55	e24	51	e46	113	40	31	30	17	21	32
17	38	50	e26	50	e44	92	45	29	27	16	21	31
18	36	44	e28	50	43	72	44	32	26	25	23	30
19	37	42	32	82	42	87	41	35	26	36	23	29
20	36	39	37	142	43	131	39	34	24	48	29	27
21	41	37	37	100	45	81	39	30	23	37	29	26
22	37	36	37	76	e48	77	38	29	22	31	29	26
23	50	35	47	155	e47	81	40	28	24	24	28	22
24	47	34	42	192	e45	87	37	30	24	23	25	23
25	41	35	37	120	e42	86	37	32	21	31	23	24
26	36	49	37	157	e40	77	43	29	21	41	27	24
27	34	62	327	121	84	75	40	27	22	25	26	24
28	33	56	206	258	54	90	46	27	20	22	26	24
29	32	47	126	612	---	105	65	29	19	24	27	25
30	32	40	70	438	---	88	55	33	19	28	25	24
31	35	---	59	220	---	74	---	43	---	24	35	---
TOTAL	1080	1259	1656	3733	1823	8274	1390	1081	897	717	909	1472
MEAN	34.8	42.0	53.4	120	65.1	267	46.3	34.9	29.9	23.1	29.3	49.1
MAX	50	62	327	612	176	2300	65	48	64	48	86	351
MIN	30	34	24	35	40	42	37	27	19	16	20	22
CFSM	.14	.17	.22	.49	.26	1.08	.19	.14	.12	.09	.12	.20
IN.	.16	.19	.25	.56	.27	1.25	.21	.16	.14	.11	.14	.22

CAL YR 1988 TOTAL 42016 MEAN 115 MAX 3930 MIN 22 CFSM .46 IN. 6.33
WTR YR 1989 TOTAL 24291 MEAN 66.6 MAX 2300 MIN 16 CFSM .27 IN. 3.66

e Estimated

05420100 PLUM RIVER AT SAVANNA, IL

LOCATION.--Lat 42°05'50", long 90°07'38", in SE1/4SW1/4 sec.2, T.24 N., R.3 E., Carroll County, Hydrologic Unit 07060005, at bridge on U.S. Highway 52 at Savanna, 4.5 mi (7.2 km) downstream from Camp Creek and at mile 7.8 (12.6 km).

DRAINAGE AREA.--273 mi^2.

PERIOD OF RECORD.--Water years 1976 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site MJ 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT 12...	1130	17002	17002	83	670	7.90	7.5	6.6	9.8	14	K150	370
NOV 16...	1400	17002	17002	121	644	7.50	7.5	11	8.5	21	K7200	360
JAN 24...	1500	17002	17002	300	510	7.80	0.5	9.1	9.2	26	240	250
FEB 17...	0900	17002	17002	135	678	7.80	0.0	3.9	11.2	6	K10	320
MAR 29...	0930	17002	17002	264	618	7.80	12.5	14	7.8	40	K20000	310
MAY 18...	1300	17002	17002	88	636	7.80	19.0	5.2	7.1	22	K790	340
JUN 19...	1200	17002	17002	230	654	7.70	22.5	27	7.1	16	400	340

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT 12...	370	76	74	45	44	9.8	9.6	1.9	1.8	--	--
NOV 16...	360	74	72	44	43	8.4	8.2	3.7	3.5	32	22
JAN 24...	250	51	51	30	30	5.8	5.8	4.0	4.0	--	--
FEB 17...	320	69	67	39	38	8.5	8.3	2.0	1.9	--	--
MAR 29...	310	66	64	37	36	12	12	4.9	4.5	--	--
MAY 18...	340	70	67	44	43	8.4	8.1	2.8	1.9	--	--
JUN 19...	340	68	68	43	42	9.0	9.1	2.3	2.0	--	--

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05420100 PLUM RIVER AT SAVANNA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)
OCT 12...	--	14	5	4.50	0.510	0.006	--	--	--	0.120	0.080
NOV 16...	181	26	8	4.40	0.420	0.002	0.98	1.4	5.8	0.360	0.250
JAN 24...	--	7	4	2.90	0.660	0.004	--	--	--	0.400	0.320
FEB 17...	--	23	5	4.20	0.210	0.001	--	--	--	0.120	0.080
MAR 29...	--	112	24	2.80	0.310	0.005	--	--	--	0.330	0.140
MAY 18...	--	46	12	1.50	0.060	0.001	--	--	--	0.180	0.060
JUN 19...	--	49	8	2.00	0.150	0.004	--	--	--	0.220	0.140

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)
OCT 12...	380	<50	70	68	<0.5	<0.5	<50	<50	<3	<3	<5
NOV 16...	620	210	80	73	<0.5	<0.5	<50	<50	<3	<3	<5
JAN 24...	310	80	50	51	<0.5	<0.5	<50	<50	<3	<3	<5
FEB 17...	380	70	60	57	<0.5	<0.5	<50	<50	<3	<3	6
MAR 29...	1800	120	100	81	<0.5	<0.5	<50	<50	<3	<3	6
MAY 18...	1500	440	100	91	<0.5	<0.5	<50	<50	<3	<3	5
JUN 19...	1300	280	100	91	<0.5	<0.5	<50	<50	<3	<3	<5

05420100 PLUM RIVER AT SAVANNA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT											
12...	<5	<5	<5	<5	<5	570	<50	<5	<5	85	57
NOV											
16...	<5	<5	<5	<5	<5	770	<50	<5	<5	130	97
JAN											
24...	<5	<5	<5	<5	<5	370	62	<5	<5	120	110
FEB											
17...	5	<5	<5	<5	<5	560	<50	<5	<5	110	91
MAR											
29...	<5	<5	<5	6	<5	2400	<50	<5	<5	290	180
MAY											
18...	<5	<5	<5	<5	<5	1500	56	<5	<5	420	330
JUN											
19...	<5	<5	<5	<5	<5	1500	<50	<5	<5	260	190

DATE	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT											
12...	<0.05	<5	<5	<3	<3.0	80	80	<5	<5	<50	<50
NOV											
16...	--	<5	<5	<3	<3.0	90	86	<5	<5	<50	<50
JAN											
24...	<0.05	<5	<5	<3	<3.0	60	57	<5	<5	<50	<50
FEB											
17...	<0.05	6	7	<3	<3.0	80	77	<5	<5	<50	<50
MAR											
29...	<0.05	<5	<5	<3	<3.0	90	84	5	<5	<50	<50
MAY											
18...	<0.05	8	8	<3	<3.0	80	78	<5	<5	<50	<50
JUN											
19...	<0.05	<5	5	<3	<3.0	80	81	<5	<5	<50	<50

05420500 MISSISSIPPI RIVER AT CLINTON, IA

LOCATION.--Lat 41°46'53", long 90°15'04", in NW1/4 sec.34, T.81 N., R.6 E., Clinton County, Hydrologic Unit 07080101, on right bank at foot of Seventh Avenue in Camanche, 5.0 mi upstream from Wapsipinicon River, 6.4 mi downstream from Clinton, 10.6 mi downstream from Lock and Dam 13, and at mile 511.8 upstream from Ohio River. Prior to June 6, 1969, at site 400 ft downstream.

DRAINAGE AREA.--85,600 mi^2, approximately, at Fulton-Lyons Bridge at Clinton.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to August 1873 (fragmentary), October 1873 to current year (October 1932 to September 1939, published as "at Le Claire").

REVISED RECORDS.--WDR IA-75-1: 1974.

GAGE.--Water-stage recorder. Datum of gage is 562.68 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1955, to June 5, 1969, water-stage recorder at site 400 ft downstream at same datum. Auxiliary water-stage recorder at Lock and Dam 13 since Oct. 1, 1958. See WSP 1728 for history of changes prior to Oct. 1, 1955.

REMARKS.--Records good except those for estimated daily discharges or discharges below 10,000 ft^3/s, which are poor. Minor flow regulation caused by navigation dams. U.S. Army Corps of Engineers data collection platform and gage-height telemeter at station.

AVERAGE DISCHARGE.--116 years, 47,600 ft^3/s, 7.55 in/yr, 34,490,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 307,000 ft^3/s, Apr. 28, 1965; maximum gage height, 24.65 ft, Apr. 28, 1965; minimum daily discharge, 6,500 ft^3/s, Dec. 25-27, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1828, that of Apr. 28, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 104,000 ft^3/s, Apr. 6; maximum gage height, 14.19 ft, Apr. 6; minimum daily discharge, 11,400 ft^3/s, Aug. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23400	18800	28500	e25200	33000	e22800	79400	52700	50800	31200	11900	22400
2	25300	17600	27000	e24500	e32600	e22400	86000	52600	54900	32200	12600	26600
3	28500	17600	25600	e23700	e25200	e22400	88500	51900	57700	32100	14600	27600
4	29000	18700	25200	e23000	e19100	e23300	94100	50700	60200	31000	19500	25400
5	28100	21000	25800	e22600	e19300	e24700	101000	49600	62100	29600	25400	24000
6	26200	23000	26200	e22600	e20100	e24300	104000	51300	64500	28200	26900	23500
7	23400	24200	25500	e21800	e20800	e23600	103000	52600	67600	27100	26600	28000
8	22300	25000	27200	e20500	e21300	e22700	98200	52700	70600	27000	23300	32700
9	22100	24100	28400	e20200	e21500	e21500	89200	51700	69200	26500	16700	37200
10	23200	23500	23800	e20400	e22200	e22000	80900	50700	64400	24600	16700	39800
11	21100	22100	e18400	e20400	e23300	29000	75200	50800	52700	23500	15500	37500
12	18100	21100	e15200	e20400	e24100	37100	73200	50500	45600	23700	14400	32900
13	17300	22500	e14700	e20300	e24400	41000	72700	49800	41500	24000	13300	31900
14	16900	20900	e14300	e20000	e24400	44100	71600	49100	37000	22300	11800	29400
15	16000	22000	e14500	e20000	e24200	48500	72100	48500	28300	20500	11400	25900
16	15700	27700	e14000	e20100	e24200	49300	71900	46700	25000	19300	11700	21700
17	17400	23900	e13900	e20200	e24200	50700	70000	45200	25600	20000	13700	18700
18	19900	27100	e15400	e20800	e24200	50900	68700	45400	26900	19700	15500	18000
19	22000	28500	e16200	e21200	e24200	50000	67500	44900	31400	18200	17200	15700
20	23200	31400	e18500	e21400	e24200	51500	63700	43700	34300	16800	18200	14100
21	22800	33900	e19400	e21700	e24200	51100	60300	43500	34600	18500	17500	14400
22	22700	35200	e20500	e21700	e24400	45100	59300	41200	37100	21600	19800	19000
23	23500	35800	e22600	e21700	e24400	40200	56800	38000	36300	20500	19300	22600
24	22900	35400	e24900	e21500	e24300	37500	55200	35100	34900	17600	18700	21400
25	22100	35000	e24600	e21600	e24200	37300	55900	33000	30700	18200	18700	16800
26	21000	33300	e23900	e22200	e24000	40200	59300	33000	24000	16200	18700	14100
27	21300	34600	e25700	e22900	e23800	49400	54700	36200	26500	16800	18100	15200
28	19700	31500	e26200	23700	e23300	59000	54700	37500	28100	13500	20900	16400
29	19500	31100	e25900	25800	---	66100	55700	40600	27700	13100	21800	16000
30	21400	29700	e25700	30200	---	69900	55500	43200	29500	11900	22700	16600
31	23000	---	e25600	34400	---	75300	---	45300	---	12000	22200	---
TOTAL	679000	796200	683300	696700	669100	1252900	2198300	1417700	1279700	677400	555300	705500
MEAN	21900	26540	22040	22470	23900	40420	73280	45730	42660	21850	17910	23520
MAX	29000	35800	28500	34400	33000	75300	104000	52700	70600	32200	26900	39800
MIN	15700	17600	13900	20000	19100	21500	54700	33000	24000	11900	11400	14100
AC-FT	1347000	1579000	1355000	1382000	1327000	2485000	4360000	2812000	2538000	1344000	1101000	1399000
CFSM	.26	.31	.26	.26	.28	.47	.86	.53	.50	.26	.21	.27
IN.	.30	.35	.30	.30	.29	.54	.96	.62	.56	.29	.24	.31

CAL YR 1988 TOTAL 9727100 MEAN 26580 MAX 65800 MIN 10700 AC-FT 19290000 CFSM .31 IN. 4.23
WTR YR 1989 TOTAL 11611100 MEAN 31810 MAX 104000 MIN 11400 AC-FT 23030000 CFSM .37 IN. 5.05

e Estimated

05420500 MISSISSIPPI RIVER AT CLINTON, IA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected near bridge on State Highway 136 in Clinton, 6.4 mi upstream from discharge station.

PERIOD OF RECORD.--Water years 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
OCT 19...	1330	17002	17002	22000	378	8.50	12.5	7.2	11.1	22	K7
NOV 30...	0900	17002	17002	29700	338	8.70	2.0	7.3	14.6	26	K68
JAN 11...	1230	17002	17002	20400	417	8.30	-0.5	4.4	14.2	15	K30
MAR 21...	1230	17002	17002	51100	328	7.50	0.0	23	10.5	43	K230
APR 20...	1030	17002	17002	63700	286	8.00	10.5	22	11.5	26	K10
MAY 25...	0940	17002	17002	33000	298	8.70	21.0	11	8.1	41	<10
JUN 27...	1230	17002	17002	26500	290	7.70	26.0	12	6.1	27	<10

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
OCT 19...	180	14	41	40	20	19	13	12	2.5	2.3	164
NOV 30...	170	24	39	39	18	18	12	13	1.6	1.5	148
JAN 11...	170	10	43	40	19	17	14	13	1.8	1.7	160
MAR 21...	140	13	37	35	14	13	11	11	3.9	3.5	128
APR 20...	140	31	34	34	13	13	8.0	8.1	1.0	1.1	108
MAY 25...	140	21	35	35	14	13	8.2	8.2	1.6	2.8	120
JUN 27...	130	14	33	32	14	13	8.0	7.9	1.3	1.2	120

05420500 MISSISSIPPI RIVER AT CLINTON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT											
19...	22	20	0.3	214	31	13	<0.100	0.030	0.002	0.87	0.90
NOV											
30...	21	16	0.2	197	23	10	0.500	0.020	--	1.3	1.3
JAN											
11...	22	20	0.2	210	7	5	1.20	0.090	0.001	0.61	0.70
MAR											
21...	22	18	0.2	179	75	10	1.50	0.870	0.002	1.6	2.5
APR											
20...	22	12	0.2	155	36	8	1.30	0.040	<0.001	1.4	1.4
MAY											
25...	24	11	0.1	167	48	12	0.100	0.040	0.007	1.2	1.2
JUN											
27...	23	11	0.1	160	30	8	0.100	0.160	0.005	0.74	0.90

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)
OCT											
19...	--	0.130	0.040	570	70	1	40	32	<0.5	<0.5	<50
NOV											
30...	1.8	0.090	0.010	180	<50	<1	30	25	<0.5	<0.5	<50
JAN											
11...	1.9	0.090	0.050	60	<50	<1	40	33	<0.5	<0.5	<50
MAR											
21...	4.0	0.310	0.140	710	<50	1	20	7	<0.5	<0.5	<50
APR											
20...	2.7	0.170	0.070	770	330	1	50	39	<0.5	<0.5	<50
MAY											
25...	1.3	0.190	0.070	1100	580	2	50	42	<0.5	<0.5	<50
JUN											
27...	1.0	0.140	0.080	680	<50	2	50	40	<0.5	<0.5	<50

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT										
19...	<50	<3	<3	<5	<5	<5	<5	<5	<5	660
NOV										
30...	<50	<3	<3	<5	<5	<5	<5	<5	<5	420
JAN										
11...	<50	<3	<3	<5	<5	<5	<5	<5	<5	210
MAR										
21...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1500
APR										
20...	<50	<3	<3	<5	<5	<5	<5	<5	<5	960
MAY										
25...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1300
JUN										
27...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1000

05420500 MISSISSIPPI RIVER AT CLINTON, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
OCT 19...	<50	<5	<5	140	<5	<0.05	<5	10	<3	<3.0
NOV 30...	<50	<5	<5	74	<5	<0.05	<5	<5	<3	<3.0
JAN 11...	66	<5	<5	72	19	<0.05	<5	<5	<3	<3.0
MAR 21...	71	<5	<5	200	80	<0.05	<5	<5	<3	<3.0
APR 20...	65	<5	<5	140	<5	<0.05	<5	<5	<3	<3.0
MAY 25...	62	<5	<5	200	<5	<0.05	9	<5	<3	<3.0
JUN 27...	<50	<5	<5	170	7	<0.05	6	6	<3	<3.0

DATE	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT 19...	80	82	<5	<5	<50	<50	9.0	<0.005	3	1
NOV 30...	70	73	<5	<5	<50	<50	7.8	<0.005	3	<1
JAN 11...	70	66	<5	<5	<50	<50	8.4	<0.005	2	1
MAR 21...	60	59	<5	<5	<50	<50	13	<0.005	8	<1
APR 20...	70	70	<5	<5	<50	<50	9.8	<0.005	9	<1
MAY 25...	70	71	<5	<5	<50	<50	--	<0.005	3	<1
JUN 27...	60	62	<5	<5	<50	<50	11	<0.005	4	--

05435500 PECATONICA RIVER AT FREEPORT, IL

LOCATION.--Lat 42°18'13", long 89°36'57", in SE1/4 sec.30, T.27 N., R.8 E., Stephenson County, Hydrologic Unit 07090003, on right bank on property of Commonwealth Edison Company in Freeport, 0.3 mi upstream from Stephenson Street Bridge, 5 mi upstream from Yellow Creek, and at mile 61.9.

DRAINAGE AREA.--1,326 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1914 to current year.

REVISED RECORDS.--WSP 1175: 1944, 1948. WSP 1508: 1915(M), 1917(M), 1921(M), 1924(M), 1928(M), 1930(M), 1935-37. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 743.18 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 15, 1935, nonrecording gage at site 0.9 mi downstream at datum 4.2 ft lower. Since July 13, 1943, auxiliary nonrecording gage read once daily 0.9 mi downstream.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--75 years, 910 ft^3/s, 9.32 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s, Mar. 16, 1929, gage height, 19.76 ft, site and datum then in use; minimum, 82 ft^3/s, Dec. 11, 1957, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,010 ft^3/s, Mar. 16, gage height, 13.08 ft; minimum daily discharge, 233 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	474	433	507	e800	2020	e410	889	682	346	266	296	661
2	479	431	464	e600	2130	e410	793	598	352	262	292	877
3	477	441	458	e560	2030	e400	739	516	355	262	278	1040
4	464	455	438	e520	1700	e600	699	478	350	258	287	857
5	450	462	452	e500	1370	e900	667	468	354	257	363	560
6	442	458	455	e480	e1200	e850	631	445	340	255	442	419
7	435	482	443	e470	e1050	e740	597	428	329	251	477	378
8	435	505	441	e470	e950	e700	566	421	311	250	390	364
9	437	505	382	e460	e850	e660	538	410	299	242	315	405
10	443	525	302	e460	e780	e700	511	397	297	233	286	458
11	444	538	319	e460	e700	e850	492	383	295	242	271	462
12	442	541	e360	e450	e640	e1200	471	372	309	254	266	433
13	443	546	e400	e450	e600	e1900	464	360	333	249	261	398
14	429	530	e430	e450	e580	e2600	452	351	341	248	253	376
15	429	538	e430	e450	e550	e3300	441	343	359	249	251	364
16	432	600	e410	e440	e530	3910	437	345	340	246	254	354
17	436	616	e380	e430	e520	3880	444	340	319	240	263	345
18	437	597	e370	e430	e500	3280	443	335	307	245	265	335
19	445	572	e370	e420	e490	2160	441	340	302	277	259	325
20	456	530	e380	e450	e480	1460	432	346	298	351	256	318
21	468	502	e400	e500	e470	1210	427	342	291	396	267	316
22	471	485	e410	e560	e460	1060	422	341	288	363	282	310
23	477	471	e420	e620	e450	930	418	333	279	324	279	306
24	491	462	e430	e760	e440	934	410	324	281	294	262	294
25	498	445	e430	e950	e430	1150	398	320	271	278	256	295
26	493	477	e440	e1100	e420	1290	410	316	273	291	255	290
27	484	522	e480	e1200	e410	1250	486	311	277	279	260	295
28	469	565	e700	e1100	e410	1170	657	304	272	276	271	294
29	447	585	e1000	e1300	---	1180	668	301	273	272	293	293
30	438	559	e1100	e1600	---	1120	671	306	275	280	295	292
31	435	---	e980	e1800	---	1010	---	312	---	291	311	---
TOTAL	14100	15378	14981	21240	23160	43214	16114	11868	9316	8481	9056	12714
MEAN	455	513	483	685	827	1394	537	383	311	274	292	424
MAX	498	616	1100	1800	2130	3910	889	682	359	396	477	1040
MIN	429	431	302	420	410	400	398	301	271	233	251	290
CFSM	.34	.39	.36	.52	.62	1.05	.41	.29	.23	.21	.22	.32
IN.	.40	.43	.42	.60	.65	1.21	.45	.33	.26	.24	.25	.36

CAL YR 1988 TOTAL 276728 MEAN 756 MAX 2840 MIN 302 CFSM .57 IN. 7.76
WTR YR 1989 TOTAL 199622 MEAN 547 MAX 3910 MIN 233 CFSM .41 IN. 5.60

e Estimated

05435500 PECATONICA RIVER AT FREEPORT, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
11...	1530	17002	17002	447	647	8.20	11.5	16	9.7	14	K93
NOV											
15...	1500	17002	17002	547	606	6.90	7.0	10	10.6	15	300
JAN											
25...	0830	17002	17002	950	413	7.40	-0.5	27	6.2	100	K4100
MAR											
17...	0930	17002	17002	3930	278	7.40	-1.0	66	8.4	67	K720
29...	0800	17002	17002	1190	504	7.70	10.5	16	7.9	38	1200
MAY											
17...	1330	17002	17002	341	591	8.20	20.5	30	9.7	44	K33
JUN											
20...	0600	17002	17002	299	634	8.00	21.0	76	6.7	20	200
AUG											
07...	1400	17002	17002	482	559	7.90	22.0	24	6.1	30	K3600

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
OCT											
11...	370	370	75	74	45	44	10	9.8	2.0	1.9	23
NOV											
15...	350	350	71	70	43	42	7.8	8.1	2.6	2.6	28
JAN											
25...	180	180	40	38	23	21	8.0	7.9	7.0	6.5	23
MAR											
17...	110	110	27	24	14	12	5.6	5.3	6.8	6.0	19
29...	230	230	56	49	29	26	7.4	6.7	5.3	4.6	29
MAY											
17...	320	320	67	63	42	40	9.8	9.3	3.4	2.8	27
JUN											
20...	330	330	71	67	42	40	10	10	2.8	1.9	31
AUG											
07...	280	280	58	56	35	35	8.4	8.5	7.1	7.3	27

05435500 PECATONICA RIVER AT FREEPORT, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
OCT											
11...	21	174	68	12	4.00	0.040	0.001	0.250	0.150	1500	<50
NOV											
15...	18	169	20	5	3.90	0.020	<0.001	0.160	0.120	590	170
JAN											
25...	18	115	42	17	2.80	1.80	0.004	0.900	0.710	740	130
MAR											
17...	12	79	89	11	2.00	1.90	0.004	0.600	0.350	1600	<50
29...	18	134	124	18	3.80	0.610	0.006	0.400	0.250	2200	80
MAY											
17...	20	163	186	31	1.90	0.050	0.003	0.400	0.070	4800	480
JUN											
20...	21	171	153	21	3.00	0.120	0.005	0.370	0.170	3700	90
AUG											
07...	18	152	91	14	2.30	0.260	0.010	0.400	0.260	1400	100

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
OCT											
11...	70	52	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV											
15...	60	47	<0.5	<0.5	<50	<50	<3	<3	6	6	<5
JAN											
25...	50	40	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR											
17...	30	7	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
29...	90	57	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
MAY											
17...	100	56	<0.5	<0.5	<50	<50	<3	<3	11	7	<5
JUN											
20...	100	70	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG											
07...	100	86	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05435500 PECATONICA RIVER AT FREEPORT, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)
OCT										
11...	<5	<5	<5	2000	<50	<5	<5	140	28	6
NOV										
15...	<5	<5	<5	620	<50	<5	<5	60	27	<5
JAN										
25...	<5	<5	<5	1100	110	<5	<5	170	120	<5
MAR										
17...	<5	<5	<5	2500	87	10	<5	360	220	<5
29...	<5	6	<5	2800	<50	6	<5	300	130	6
MAY										
17...	<5	5	<5	5100	<50	10	<5	370	6	15
JUN										
20...	<5	<5	<5	4400	<50	8	<5	330	56	9
AUG										
07...	<5	<5	<5	1900	<50	<5	<5	220	38	<5

DATE	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L) (00556)
OCT										
11...	<5	<3	<3.0	50	53	6	<5	<100	<100	<1
NOV										
15...	<5	<3	<3.0	60	56	<5	<5	<100	<100	1
JAN										
25...	<5	<3	<3.0	30	32	<5	<5	<50	<50	<1
MAR										
17...	<5	<3	<3.0	20	22	<5	<5	<50	<50	<1
29...	<5	<3	<3.0	60	47	6	<5	<50	<50	1
MAY										
17...	5	<3	<3.0	50	47	10	<5	<50	<50	2
JUN										
20...	6	<3	<3.0	60	51	9	<5	<100	<100	<1
AUG										
07...	<5	<3	<3.0	50	50	8	8	<50	<50	--

05435800 PECATONICA RIVER AT HARRISON, IL

LOCATION.--Lat 42°25'41", long 89°11'40", in NE1/4SW1/4 sec.14, T.28 N., R.6 E., Winnebago County, Hydrologic Unit 07090003, at bridge on State Highway 75, 0.2 mi northwest of Harrison, 0.6 mi upstream from Sugar River, 2.6 mi downstream from Rhule Creek, and at mile 9.1.

DRAINAGE AREA.--1,788 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1958, 1960-63, 1965-77 are published in Water-Resources Investigations 78-23 and 79-24 as site PW 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
11...	1130	17002	17002	478	678	8.00	11.5	16	8.8	11	580	370
NOV												
15...	1230	17002	17002	705	643	8.90	7.0	8.5	11.0	23	K140	350
JAN												
18...	1500	17002	17002	550	646	7.80	0.0	1.5	10.8	14	K33	290
FEB												
16...	1230	17002	17002	680	680	7.50	0.0	2.9	6.4	13	K70	320
MAR												
29...	1330	17002	17002	1450	476	7.70	11.0	17	8.5	27	190	230
MAY												
17...	1200	17002	17002	413	612	8.20	19.5	23	11.1	42	K38	320
JUN												
20...	1100	17002	17002	330	651	8.00	22.0	46	7.1	18	K50	340
AUG												
07...	1230	17002	17002	602	503	8.10	22.5	34	7.6	39	K1900	230

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT												
11...	370	77	75	45	44	13	13	2.2	2.0	57	12	4.20
NOV												
15...	350	73	71	44	42	12	12	3.3	3.1	22	10	4.00
JAN												
18...	290	60	60	34	34	12	12	3.2	3.2	5	3	4.90
FEB												
16...	320	68	66	38	37	11	11	3.3	3.2	7	3	4.60
MAR												
29...	230	51	49	27	26	7.3	7.1	5.2	4.6	72	12	3.40
MAY												
17...	320	68	63	43	40	11	11	3.7	2.7	129	27	2.10
JUN												
20...	340	70	69	40	40	13	13	2.9	2.6	94	17	--
AUG												
07...	230	48	43	31	29	9.9	9.3	6.7	5.5	97	21	3.50

05435800 PECATONICA RIVER AT HARRISON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT 11...	0.130	0.003	0.290	0.190	1300	<50	80	65	<0.5	<0.5	<50	<50
NOV 15...	0.090	<0.001	0.220	0.160	730	190	70	60	<0.5	<0.5	<50	<50
JAN 18...	0.580	0.003	0.230	0.190	120	<50	50	--	<0.5	<0.5	<50	<50
FEB 16...	1.00	0.003	0.280	0.240	190	<50	60	59	<0.5	<0.5	<50	<50
MAR 29...	0.840	0.009	0.320	0.200	1500	90	80	59	<0.5	<0.5	<50	<50
MAY 17...	0.050	0.003	0.330	0.060	3600	480	100	62	<0.5	<0.5	<50	<50
JUN 20...	0.130	0.006	0.240	0.160	2200	120	100	83	<0.5	<0.5	<50	<50
AUG 07...	0.140	0.008	0.420	0.200	1500	80	100	78	<0.5	<0.5	<50	<50

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT 11...	<3	<3	<5	<5	<5	<5	<5	<5	1800	<50	<5	<5
NOV 15...	<3	13	7	5	<5	<5	<5	<5	780	<50	<5	<5
JAN 18...	<3	<3	5	5	<5	<5	<5	<5	200	<50	<5	<5
FEB 16...	<3	<3	6	<5	<5	<5	<5	<5	270	<50	<5	<5
MAR 29...	<3	<3	<5	<5	<5	<5	<5	<5	1900	<50	<5	<5
MAY 17...	<3	<3	11	7	<5	<5	6	<5	3800	<50	7	<5
JUN 20...	<3	<3	<5	<5	<5	<5	<5	--	2600	<50	5	5
AUG 07...	<3	<3	<5	<5	<5	<5	<5	<5	2200	54	<5	<5

05435800 PECATONICA RIVER AT HARRISON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT												
11...	140	46	<5	<5	<3	<3.0	60	60	9	6	<100	<100
NOV												
15...	66	25	<5	<5	<3	<3.0	70	63	<5	<5	<100	<100
JAN												
18...	50	44	<5	<5	<3	<3.0	50	48	<5	<5	<50	<50
FEB												
16...	100	88	8	<5	<3	<3.0	60	56	<5	<5	<50	<50
MAR												
29...	190	110	<5	<5	<3	<3.0	50	47	<5	<5	<50	<50
MAY												
17...	300	38	14	7	<3	<3.0	60	53	9	<5	<50	<50
JUN												
20...	210	84	12	<5	<3	<3.0	60	60	7	<5	<100	<100
AUG												
07...	280	46	<5	<5	<3	<3.0	60	52	8	<5	<50	<50

ROCK RIVER BASIN

05437500 ROCK RIVER AT ROCKTON, IL

LOCATION.--Lat 42°26'55", long 89°04'11", in SW1/4NE1/4 sec.24, T.46 N., R.1 E., Winnebago County, Hydrologic Unit 07090005, on right bank 750 ft downstream from State Highway 75 in Rockton, 1.0 mi downstream from Pecatonica River, and at mile 156.1.

DRAINAGE AREA.--6,363 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1903 to July 1906, October 1906 to March 1909, July 1914 to September 1919, October 1939 to current year. Published as "below mouth of Pecatonica River at Rockton" 1903-9; as "at Rockford" 1914-19. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORD.--WSP 325: 1903-9. WSP 895: 1904(M). WSP 1508: 1915, 1916-17(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 707.94 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1906, nonrecording gage at site 800 ft upstream at datum about 1 ft higher. Oct. 1, 1906, to Mar. 31, 1909, nonrecording gage at site 800 ft upstream at datum about 2 ft higher. July 30, 1914, to Apr. 30, 1919, nonrecording gage at site at Rockford about 21 mi downstream, at different datum. Oct. 1, 1939, to Aug. 10, 1973, at site 800 ft upstream at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Low flow regulated by powerplant above station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--57 years (water years 1904-5, 1915-19, 1940-89), 4,073 ft^3/s, 8.69 in/yr, discharge for site at Rockford adjusted for difference in drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,500 ft^3/s, Mar. 30, 1916, gage height, 13.06 ft, site and datum then in use; minimum daily, 501 ft^3/s, Sept. 14, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1937 reached a stage of 14.6 ft (backwater from ice), from painted floodmark

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,910 ft^3/s, Mar. 17, gage height, 7.03 ft; minimum daily discharge, 756 ft^3/s, July 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1400	1560	3080	e2350	4700	e1750	5890	3130	1480	937	1540	2920
2	1520	1450	3210	e2100	4350	e1600	6120	3260	1510	841	1450	3420
3	1510	1480	3090	e2100	3530	e1600	5960	3200	1680	937	1330	3350
4	1490	1550	3050	e2350	3020	e1700	5850	2820	1780	973	1640	3350
5	1490	1690	2880	e2300	e2600	e2400	5660	2780	1800	1000	2090	3330
6	1480	1730	2900	e2200	e2200	e3100	5600	2480	1720	1100	2040	3240
7	1460	1700	2800	e2100	e2100	e2900	5530	2540	1730	884	2070	3240
8	1360	1860	2890	e2100	e2600	e2600	5360	2430	1780	756	1930	3180
9	1290	1750	2610	e2200	e2750	e2400	5170	2550	1910	954	1870	3450
10	1300	1990	2400	e2500	e2800	e2500	4990	2610	2080	921	1710	3510
11	1450	1780	2020	e2300	e2750	e3300	4980	2460	2070	838	1660	3500
12	1340	2170	e2000	e2200	e2650	e4500	4840	2320	2320	1050	1590	3470
13	1340	2130	2250	e2100	e2550	e6200	4810	2330	2430	1080	1670	3420
14	1300	2110	2410	e2200	e2400	6900	4620	2190	2480	808	1530	3330
15	1270	2320	2280	e2100	e2300	7630	4370	2170	2540	955	1640	3230
16	1350	2400	2150	e2000	e2250	8180	4240	2000	2480	873	1880	3030
17	1350	2410	e2100	e1900	e2150	8790	4260	1940	2300	885	1680	2940
18	1500	2480	e2000	e1900	e2100	8120	4160	1950	2260	905	1530	2730
19	1460	2480	2080	e1900	e2000	7630	4000	1970	2180	1170	1540	2660
20	1450	2430	2150	e2000	e1950	8090	3810	1850	2220	1490	1530	2500
21	1520	2370	2060	2210	e1850	6970	3710	1910	2030	1490	1570	2380
22	1630	2230	2130	2280	e1750	5800	3800	1870	1950	1540	1460	2350
23	1550	2230	2100	2310	e1700	5340	3680	1820	1890	1460	1450	2290
24	1550	2240	2120	2430	e1650	5200	3450	1700	1750	1380	1420	2020
25	1610	2260	2180	2740	e1800	5250	3560	1580	1710	1310	1470	1990
26	1680	2320	1950	3060	e1750	5480	3360	1510	1710	1390	1520	1780
27	1680	2560	e1900	3320	e1700	5870	3190	1380	1490	1430	1460	1800
28	1620	2680	e1900	3310	e1800	6210	3420	1400	1330	1480	1480	1600
29	1500	3010	e1900	3490	---	6770	3540	1440	1210	1450	1590	1500
30	1660	3140	e2300	3900	---	6760	3340	1470	1210	1560	1630	1480
31	1560	---	e2600	4440	---	6610	---	1580	---	1460	1690	---
TOTAL	45670	64510	73490	76390	67750	158150	135270	66640	57030	35307	50660	82990
MEAN	1473	2150	2371	2464	2420	5102	4509	2150	1901	1139	1634	2766
MAX	1680	3140	3210	4440	4700	8790	6120	3260	2540	1560	2090	3510
MIN	1270	1450	1900	1900	1650	1600	3190	1380	1210	756	1330	1480
CFSM	.23	.34	.37	.39	.38	.80	.71	.34	.30	.18	.26	.43
IN.	.27	.38	.43	.45	.40	.92	.79	.39	.33	.21	.30	.49

CAL YR 1988 TOTAL 1218000 MEAN 3328 MAX 12000 MIN 1040 CFSM .52 IN. 7.12
WTR YR 1989 TOTAL 913857 MEAN 2504 MAX 8790 MIN 756 CFSM .39 IN. 5.34

e Estimated

05437500 ROCK RIVER AT ROCKTON, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site P 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
OCT 11...	1200	17002	17002	1480	650	7.60	12.5	13	9.9	15	K160
NOV 15...	1000	17002	17002	2180	596	7.00	8.0	13	10.6	20	K160
JAN 18...	1330	17002	17002	1900	671	7.90	3.0	2.0	10.9	17	K13
FEB 16...	1000	17002	17002	2250	693	7.30	0.5	2.5	7.5	14	K90
MAR 29...	1430	17002	17002	6860	558	8.00	8.0	10	9.7	44	460
MAY 17...	1000	17002	17002	1950	556	8.20	20.5	10	10.8	49	K81
JUN 20...	1230	17002	17002	2300	616	8.20	22.5	34	8.8	22	K680
AUG 07...	1100	17002	17002	2160	556	8.10	23.0	21	9.4	44	K3000

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
OCT 11...	350	65	74	72	43	42	11	11	1.9	1.8	288
NOV 15...	300	47	66	62	40	36	10	9.6	2.9	2.6	256
JAN 18...	280	39	59	57	34	33	13	13	3.2	2.9	240
FEB 16...	300	30	65	63	36	35	9.1	9.2	3.8	3.6	272
MAR 29...	220	43	61	48	29	25	17	16	5.3	4.9	180
MAY 17...	280	48	60	51	40	37	13	12	2.6	2.5	232
JUN 20...	330	48	70	67	40	39	11	11	2.1	1.7	280
AUG 07...	280	--	57	--	35	--	17	11	4.5	6.6	216

05437500 ROCK RIVER AT ROCKTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 11...	22	23	0.3	345	34	10	4.00	0.100	<0.001	0.80	0.90
NOV 15...	32	22	0.2	318	34	14	3.80	0.110	<0.001	0.89	1.0
JAN 18...	32	32	0.1	314	10	7	4.20	0.230	0.002	1.4	1.6
FEB 16...	31	21	0.2	326	6	2	4.30	0.760	0.001	0.64	1.4
MAR 29...	50	33	0.1	285	70	18	2.80	0.890	0.015	1.8	2.7
MAY 17...	37	26	0.1	305	83	23	1.40	0.130	0.008	1.8	1.9
JUN 20...	30	23	0.1	340	79	15	2.90	0.050	0.004	1.0	1.1
AUG 07...	31	31	0.2	--	82	24	2.40	0.090	0.006	2.0	2.1

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)
OCT 11...	4.9	0.250	0.150	900	<50	1	60	54	<0.5	<0.5
NOV 15...	4.8	0.220	0.150	880	170	1	70	44	<0.5	<0.5
JAN 18...	5.8	0.220	0.120	130	50	<1	50	43	<0.5	<0.5
FEB 16...	5.7	0.250	0.210	230	<50	<1	50	49	<0.5	<0.5
MAR 29...	5.5	0.470	0.360	850	100	1	50	34	<0.5	<0.5
MAY 17...	3.3	0.260	0.050	1900	490	1	70	43	<0.5	<0.5
JUN 20...	4.0	0.280	0.160	1500	<50	1	90	67	<0.5	<0.5
AUG 07...	4.5	0.460	0.210	1000	100	2	90	82	<0.5	<0.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT										
11...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
NOV										
15...	<50	<50	<3	<3	79	7	<5	<5	5	<5
JAN										
18...	<50	<50	<3	<3	<5	--	<5	<5	<5	<5
FEB										
16...	<50	<50	<3	<3	6	<5	<5	<5	<5	<5
MAR										
29...	<50	<50	<3	<3	5	<5	<5	<5	<5	<5
MAY										
17...	<50	<50	<3	<3	6	<5	<5	<5	<5	<5
JUN										
20...	<50	<50	<3	<3	<5	<5	<5	<5	11	<5
AUG										
07...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)
OCT										
11...	1200	<50	<5	<5	100	19	<0.05	<5	<5	<3
NOV										
15...	1200	<50	8	<5	85	21	0.08	47	<5	<3
JAN										
18...	240	<50	<5	<5	49	35	<0.05	<5	<5	<3
FEB										
16...	280	<50	<5	<5	87	73	<0.05	<5	7	<3
MAR										
29...	1200	<50	<5	<5	110	31	<0.05	<5	<5	<3
MAY										
17...	1900	<50	<5	<5	200	<5	<0.05	8	<5	<3
JUN										
20...	1900	<50	<5	<5	180	43	<0.05	<5	<5	<3
AUG										
07...	1500	<50	<5	<5	250	120	<0.05	<10	<10	<3

05437500 ROCK RIVER AT ROCKTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L) (00556)
OCT										
11...	<3.0	60	58	7	<5	<50	<50	<0.005	3	<1
NOV										
15...	<3.0	60	54	<5	<5	<100	<100	<0.005	3	<1
JAN										
18...	<3.0	60	53	<5	<5	<50	<50	<0.005	6	1
FEB										
16...	<3.0	60	56	<5	<5	<50	<50	<0.005	<2	1
MAR										
29...	<3.0	110	91	<5	<5	<50	<50	<0.005	11	<1
MAY										
17...	<3.0	70	61	<5	<5	<50	<50	<0.005	3	1
JUN										
20...	<3.0	60	59	5	<5	<50	<50	<0.005	<2	2
AUG										
07...	<3.0	80	84	5	<5	120	<50	<0.005	<2	<1

05438201 KISHWAUKEE RIVER AT GARDEN PRAIRIE ROAD AT GARDEN PRAIRIE, IL

LOCATION.--Lat 42°15'40", long 88°43'30", in NE1/4SE1/4 sec.26, T.44 N., R.4 E., Boone County, Hydrologic Unit 07090006, at bridge on Garden Prairie Road, 0.5 mi north of Garden Prairie, 1.5 mi downstream from Rush Creek, 1.6 mi upstream from Muddy Creek, and at mile 32.5.

DRAINAGE ARE.--222 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site PQ 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 25...	1030	17002	17002	36	693	7.90	6.5	2.0	12.2	4	K100
DEC 23...	0830	17002	17002	49	751	7.90	2.5	3.6	11.1	<1	95
JAN 23...	1130	17002	17002	48	751	7.70	3.0	2.8	14.0	2	K10
MAR 17...	1130	17002	17002	140	787	7.90	3.0	3.1	10.7	18	25
APR 03...	1100	17002	17002	126	858	7.90	8.0	2.9	11.5	18	K40
MAY 19...	1100	17002	17002	42	760	7.80	16.5	2.6	9.0	16	410
JUN 16...	1100	17002	17002	77	798	7.00	14.5	10	8.7	12	490
JUL 25...	1200	17002	17002	37	741	8.20	25.0	14	7.6	20	K670

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 25...	360	360	89	82	42	38	11	10	2.1	1.8	63
DEC 23...	380	380	87	87	39	40	17	17	1.6	1.6	75
JAN 23...	370	370	88	85	40	39	17	17	1.8	1.8	94
MAR 17...	400	400	100	96	41	39	15	14	2.3	2.3	120
APR 03...	450	450	110	110	44	44	15	15	1.7	1.7	150
MAY 19...	390	390	87	86	42	42	16	16	1.5	0.98	81
JUN 16...	430	430	98	97	44	45	16	15	0.9	0.38	98
JUL 25...	380	380	86	85	41	40	17	17	1.9	1.5	76

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05438201 KISHWAUKEE RIVER AT GARDEN PRAIRIE ROAD AT GARDEN PRAIRIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
OCT 25...	30	225	1	1	1.60	0.020	<0.001	0.080	0.060	160	<100
DEC 23...	37	258	5	4	3.00	0.130	0.001	0.120	0.080	<50	<50
JAN 23...	37	274	2	1	2.30	0.060	<0.001	0.120	0.080	<50	<50
MAR 17...	37	313	2	1	4.60	0.220	0.002	0.110	0.070	170	100
APR 03...	39	352	5	4	4.60	0.150	0.002	0.100	0.050	290	150
MAY 19...	38	265	7	6	1.30	0.130	0.003	0.110	0.050	570	500
JUN 16...	38	294	18	8	2.90	0.060	<0.001	0.120	0.060	420	380
JUL 25...	36	256	32	10	2.20	0.110	0.010	0.900	0.070	410	90

DATE	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
OCT 25...	50	45	<0.5	<0.5	<50	40	<3	<3	<5	--	<5
DEC 23...	30	26	<0.5	<0.5	50	50	<3	<3	<5	<5	<5
JAN 23...	50	44	<0.5	<0.5	50	<50	<3	<3	<5	<5	<5
MAR 17...	20	17	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
APR 03...	60	55	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY 19...	60	58	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 16...	60	60	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUL 25...	80	71	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05438201 KISHWAUKEE RIVER AT GARDEN PRAIRIE ROAD AT GARDEN PRAIRIE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT 25...	<5	<5	<5	290	53	<5	<5	--	68	<5
DEC 23...	<5	<5	<5	390	<50	<5	<5	58	50	<10
JAN 23...	<5	<5	<5	360	68	<5	<5	55	49	<5
MAR 17...	<5	<5	<5	470	74	<5	<5	69	58	<5
APR 03...	<5	<5	<5	660	55	<5	<5	65	44	<5
MAY 19...	<5	6	<5	690	180	<5	<5	89	59	8
JUN 16...	<5	<5	<5	1100	64	<5	<5	76	14	6
JUL 25...	<5	<5	<5	1200	<50	<5	<5	130	66	<50

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT 25...	13	<3	<5.0	160	160	<5	<5	<50	<50	<1
DEC 23...	<10	<3	<3.0	180	180	<5	<5	<50	<50	<1
JAN 23...	<5	<3	<3.0	180	180	<5	<5	<50	<50	<1
MAR 17...	<5	<3	<3.0	160	150	<5	<5	<50	<50	<1
APR 03...	<5	<3	<3.0	190	190	<5	<5	<50	<50	1
MAY 19...	<5	<3	<3.0	180	180	<5	<5	<50	<50	<1
JUN 16...	<5	<3	<3.0	190	180	<5	<5	<50	<50	<1
JUL 25...	<5	<3	<3.0	200	190	<5	<5	<50	<50	<1

05438250 COON CREEK AT RILEY, IL

LOCATION.--Lat 42°10'58", long 88°38'28", in SE1/4SW1/4 sec.22, T.43 N., R.5 E., McHenry County, Hydrologic Unit 07090006, on left bank at downstream side of bridge on Riley-Harmony Road, 0.2 mi upstream from Interstate Highway 90, 0.8 mi southwest of Riley, and at mile 12.8.

DRAINAGE AREA.--85.1 mi^2.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT 26...	1230	17002	17002	11	836	7.70	6.0	12	12.8	14	K140	440
DEC 23...	1000	17002	17002	14	820	8.10	2.0	4.1	12.0	<1	K600	430
JAN 23...	1000	17002	17002	21	788	7.90	2.5	2.4	15.1	6	K10	390
MAR 17...	1230	17002	17002	40	814	8.10	2.5	3.2	12.2	9	200	420
APR 03...	0930	17002	17002	34	808	7.90	8.0	2.3	12.0	7	K60	430
MAY 19...	1200	17002	17002	14	797	7.70	16.5	4.1	8.9	16	K610	400
JUN 16...	1230	17002	17002	28	840	7.00	14.5	9.1	9.3	12	680	450
JUL 25...	1255	17002	17002	8.3	828	8.10	27.0	16	8.0	18	K1400	430

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 26...	440	100	100	47	45	19	19	3.3	3.0	43	14	1.30
DEC 23...	430	100	100	42	42	17	17	1.9	1.9	6	5	2.20
JAN 23...	390	99	92	42	39	15	14	1.8	1.6	1	1	2.80
MAR 17...	420	100	100	42	41	13	13	1.8	1.7	3	2	5.90
APR 03...	430	100	100	43	43	14	14	1.4	1.2	3	1	5.60
MAY 19...	400	92	89	45	44	15	15	1.4	1.2	11	7	0.700
JUN 16...	450	110	100	46	45	15	15	0.3	0.70	24	7	5.40
JUL 25...	430	100	99	46	45	16	16	2.7	2.8	22	4	1.90

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05438250 COON CREEK AT RILEY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)
OCT												
26...	0.040	<0.001	0.130	0.030	1300	200	100	78	<0.5	<0.5	<50	<50
DEC												
23...	0.290	0.004	0.110	0.050	70	<50	60	61	<0.5	<0.5	<50	<50
JAN												
23...	0.050	<0.001	0.080	0.040	100	50	80	71	<0.5	<0.5	<50	<50
MAR												
17...	0.080	0.001	0.070	0.030	150	70	40	38	<0.5	<0.5	<50	<50
APR												
03...	0.050	<0.001	0.050	0.020	230	150	80	81	<0.5	<0.5	<50	<50
MAY												
19...	0.260	0.004	0.090	0.020	660	440	100	92	<0.5	<0.5	<50	<50
JUN												
16...	0.130	<0.001	0.100	0.040	570	<50	100	90	<0.5	<0.5	<50	<50
JUL												
25...	0.220	0.018	0.180	0.110	490	80	100	110	<0.5	<0.5	<50	<50

DATE	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)
OCT												
26...	<3	<3	6	6	<5	<5	<5	<5	2000	<50	<5	<5
DEC												
23...	<3	<3	<5	<5	<5	<5	<5	<5	350	58	<5	<5
JAN												
23...	<3	<3	<5	8	<5	5	<5	<5	340	59	<5	<5
MAR												
17...	<3	<3	<5	<5	<5	<5	<5	<5	280	<50	<5	<5
APR												
03...	<3	<3	<5	<5	<5	<5	<5	<5	390	87	<5	<5
MAY												
19...	<3	<3	6	6	<5	<5	<5	<5	800	190	<5	<5
JUN												
16...	<3	<3	<5	<5	<5	<5	<5	<5	990	<50	<5	<5
JUL												
25...	<3	<3	<5	<5	<5	<5	<5	<5	930	61	<5	<5

05438250 COON CREEK AT RILEY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT												
26...	170	110	<5	<5	<3	<3.0	320	310	<5	<5	<50	<50
DEC												
23...	83	76	<5	<5	<3	<3.0	280	280	<5	<5	<50	<50
JAN												
23...	100	88	<5	6	<3	<5.0	260	240	<5	<5	<50	<50
MAR												
17...	110	97	<5	<5	<3	<3.0	210	200	<5	<5	<50	<50
APR												
03...	110	100	<5	<5	<3	<3.0	240	240	<5	<5	<100	<100
MAY												
19...	280	250	9	8	<3	<3.0	270	260	<5	<5	<50	<50
JUN												
16...	100	74	5	<5	<3	<3.0	270	260	<5	<5	<100	<100
JUL												
25...	140	98	<5	<5	<3	<3.0	300	300	<5	<5	<100	<100

05438500 KISHWAUKEE RIVER AT BELVIDERE, IL

LOCATION.--Lat 42°15'22", long 88°51'50", in SE1/4SE1/4 sec.27, T.44 N., R.3 E., Boone County, Hydrologic Unit 07090006, on left bank at Belvidere sewage-treatment plant, 1.3 mi downstream from bridge on State Street in Belvidere, 3.0 mi downstream from Piscasaw Creek, and at mile 21.9.

DRAINAGE AREA.--538 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1175: 1946. WSP 1508: 1940, 1942-43, 1947(M). WSP 1728: 1940(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 738.34 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Sept. 28, 1939, to Sept. 30, 1942, nonrecording gage at site 1.3 mi upstream at datum 3.99 ft higher, and Oct. 1, 1942, to Sept. 30, 1973, nonrecording gage at present site and datum. Gage-height telemeter at station.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--50 years, 354 ft^3/s, 8.94 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft^3/s, Mar. 16, 1943, gage height, 13.10 ft; minimum observed, 14 ft^3/s, Sept. 19, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 24, 1938, reached a stage of 16.9 ft, backwater from ice, from information by sewage-treatment plant employees.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 2	1000	*1,830	*5.29	No other peak greater than base discharge.			

Minimum discharge, 30 ft^3/s, July 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	78	175	e100	204	e86	360	156	275	64	322	1140
2	85	76	162	e95	191	e88	323	148	360	62	232	1710
3	76	77	156	e90	136	e100	297	142	380	57	182	1390
4	60	95	147	e89	87	e175	277	134	444	54	338	1010
5	64	131	141	e91	e85	256	255	134	442	47	998	675
6	54	126	138	e100	e125	265	234	128	351	45	1370	531
7	61	113	137	112	e115	252	222	123	265	43	1260	538
8	81	112	129	107	e108	225	212	119	214	42	890	607
9	64	127	111	e125	e102	239	204	114	185	36	653	633
10	48	179	108	148	e103	486	192	108	166	46	529	599
11	44	192	79	134	e106	1180	183	102	148	49	421	519
12	44	177	e77	155	e110	1160	178	99	169	32	348	448
13	60	186	e95	161	118	656	170	97	209	33	290	415
14	51	196	120	135	119	465	166	93	200	35	253	429
15	62	181	105	122	e110	422	164	97	172	33	240	424
16	66	234	78	110	e104	380	159	97	160	33	215	395
17	66	280	e74	109	e100	336	162	93	147	33	189	352
18	68	239	e82	110	e100	298	160	92	134	36	171	321
19	69	213	103	113	e105	280	160	104	123	54	155	285
20	65	202	125	126	e112	269	154	112	115	116	146	267
21	70	188	120	105	e102	253	152	99	108	118	138	242
22	71	171	106	105	e92	240	143	93	104	109	129	236
23	81	159	117	e105	e88	231	138	89	96	95	141	214
24	87	149	115	113	e90	227	135	83	91	80	133	205
25	85	144	96	125	98	230	137	139	82	74	124	195
26	80	199	91	170	107	235	142	134	81	78	119	190
27	76	247	136	167	103	254	135	105	86	100	118	160
28	77	238	105	148	e90	343	163	88	78	204	173	178
29	76	209	e100	155	---	521	189	85	70	204	289	170
30	75	192	e108	203	---	507	173	89	66	467	234	172
31	76	---	e105	211	---	428	---	104	---	448	191	---
TOTAL	2112	5110	3541	3939	3110	11087	5739	3400	5521	2927	10991	14670
MEAN	68.1	170	114	127	111	358	191	110	184	94.4	355	489
MAX	87	280	175	211	204	1180	360	156	444	467	1370	1710
MIN	44	76	74	89	85	86	135	83	66	32	118	170
CFSM	.13	.32	.21	.24	.21	.66	.36	.20	.34	.18	.66	.91
IN.	.15	.35	.24	.27	.22	.77	.40	.24	.38	.20	.76	1.01

CAL YR 1988 TOTAL 112218 MEAN 307 MAX 3710 MIN 27 CFSM .57 IN. 7.76
WTR YR 1989 TOTAL 72147 MEAN 198 MAX 1710 MIN 32 CFSM .37 IN. 4.99

e Estimated

05438600 KISHWAUKEE RIVER ABOVE SOUTH BRANCH NEAR PERRYVILLE, IL

LOCATION.--Lat 42°12'06", long 88°58'43", in NE1/4SE1/4 sec.15, T.43 N., R.2 E., Winnebago County, Hydrologic Unit 07090006, at bridge on Perryville Road, 0.3 mi upstream from South Branch, 1.3 mi south of Perryville, and at mile 11.3.

DRAINAGE AREA.--655 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1964-65, 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site PQ 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
25...	1130	17002	17002	127	727	7.60	7.0	1.3	13.9	7	K55
DEC											
22...	1500	17002	17002	160	725	7.90	1.0	2.2	12.3	<1	K130
JAN											
24...	0930	17002	17002	159	729	7.80	1.5	5.1	16.2	11	K20
MAR											
02...	0800	17002	17002	110	777	7.70	0.0	3.4	12.9	7	K30
APR											
04...	0800	17002	17002	355	805	8.20	7.5	2.9	9.4	13	K70
MAY											
18...	1600	17002	17002	134	752	8.20	18.5	1.7	12.2	16	K38
JUN											
16...	0600	17002	17002	280	795	7.60	15.0	3.7	7.9	11	280
JUL											
25...	0730	17002	17002	220	765	7.70	24.0	9.6	7.5	18	260

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT											
25...	390	390	85	87	41	42	21	21	2.5	2.6	56
DEC											
22...	350	350	78	79	36	36	20	21	1.6	1.6	68
JAN											
24...	360	360	83	82	37	37	21	21	2.5	2.5	70
MAR											
02...	440	440	100	99	49	47	25	26	2.4	2.4	74
APR											
04...	410	410	99	96	42	41	19	19	1.7	1.5	100
MAY											
18...	370	370	79	79	42	42	21	21	2.3	2.5	75
JUN											
16...	410	410	98	95	44	43	18	18	1.3	0.43	81
JUL											
25...	370	370	87	83	41	39	25	24	3.4	3.3	74

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05438600 KISHWAUKEE RIVER ABOVE SOUTH BRANCH NEAR PERRYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
OCT 25...	41	250	1	1	2.20	0.010	<0.001	0.190	0.160	1700	220
DEC 22...	41	247	4	4	2.80	0.110	<0.001	0.230	0.210	<50	140
JAN 24...	40	253	7	4	3.30	0.090	<0.001	0.350	0.300	120	70
MAR 02...	44	293	10	5	3.00	0.050	<0.001	0.200	0.170	870	140
APR 04...	44	303	15	6	4.60	0.120	0.003	0.140	0.090	370	150
MAY 18...	44	264	6	6	1.20	0.030	0.002	0.200	0.130	550	470
JUN 16...	42	280	12	7	4.40	0.050	<0.001	0.110	0.070	800	520
JUL 25...	46	270	27	14	2.40	0.040	0.001	0.290	0.180	220	70

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
OCT 25...	50	51	<0.5	<0.5	<50	<50	<3	<3	8	7	<5
DEC 22...	30	29	<0.5	<0.5	<50	<50	5	<3	<5	<5	<5
JAN 24...	50	48	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR 02...	20	12	<0.5	<0.5	60	--	<3	<3	<5	<5	<5
APR 04...	70	61	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY 18...	60	52	<0.5	<0.5	<50	<50	<3	<3	6	5	<5
JUN 16...	80	73	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUL 25...	90	79	<0.5	<0.5	60	50	<3	<3	<5	<5	<5

05438600 KISHWAUKEE RIVER ABOVE SOUTH BRANCH NEAR PERRYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT 25...	<5	<5	<5	80	210	<5	<5	34	32	7
DEC 22...	<5	<5	<5	160	<50	<5	<5	21	20	<5
JAN 24...	<5	5	<5	260	75	<5	<5	40	30	<5
MAR 02...	<5	<5	<5	340	<50	22	<5	63	29	<5
APR 04...	<5	<5	<5	600	62	<5	<5	74	16	<5
MAY 18...	<5	<5	<5	300	94	<5	<5	65	36	7
JUN 16...	<5	<5	<5	620	<50	<5	<5	37	6	<5
JUL 25...	<5	<5	<5	380	<50	<5	<5	86	33	<50

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT 25...	6	<3	<3.0	130	130	<5	<5	<50	<50	1
DEC 22...	<5	<3	<3.0	140	140	<5	<5	<50	<50	<1
JAN 24...	<5	<3	<3.0	130	130	<5	<5	<50	<50	<1
MAR 02...	<5	<3	<3.0	150	150	<5	<5	<50	<50	1
APR 04...	<5	<3	<3.0	160	160	<5	<5	<50	<50	1
MAY 18...	<5	<3	<3.0	140	140	<5	<5	<50	<50	<1
JUN 16...	<5	<3	<3.0	160	150	<5	<5	<50	<50	1
JUL 25...	<5	<3	<3.0	180	170	<5	<5	<50	<50	--

05439000 SOUTH BRANCH KISHWAUKEE RIVER AT DE KALB, IL

LOCATION.--Lat 41°55'53", long 88°45'35", in SW1/4NE1/4 sec.22, T.40 N., R.4 E., De Kalb County, Hydrologic Unit 07090006, on left bank 100 ft downstream of bridge on State Highway 38 in De Kalb, and at mile 48.5.

DRAINAGE AREA.--77.7 mi^2.

PERIOD OF RECORD.--July 1925 to September 1933, October 1979 to current year.

REVISED RECORDS.--WDR IL-80-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 831.88 ft above National Geodetic Vertical Datum of 1929. Mar. 23, 1980, to Sept. 30, 1983, at datum 3.0 ft higher. Oct. 1, 1979, to Mar. 22, 1980, nonrecording gage at same site at datum 3.0 ft higher. Prior to Sept. 30, 1933, nonrecording gage at same site at datum 3.40 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--18 years (water years 1926-33, 1980-89), 61.5 ft^3/s, 10.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,500 ft^3/s, July 2, 1983, gage height, 15.80 ft, present datum; no flow Aug. 7, Sept. 20, 21, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 1	0545	596	7.46	Aug. 4	1400	514	7.07
July 30	0545	*697	*7.91				

Minimum discharge, 0.03 ft^3/s, Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	.49	13	e5.5	e32	e8.0	34	11	532	8.6	231	171
2	6.6	.46	12	e4.5	e22	e7.3	34	11	378	14	169	161
3	1.7	.98	11	e3.9	e17	e7.4	32	11	263	9.0	129	90
4	.67	11	9.3	e3.6	e13	e35	30	11	205	7.7	447	65
5	.29	3.7	8.6	e3.5	e12	e90	26	12	136	6.5	431	54
6	.18	1.8	9.6	e3.4	e11	e70	24	9.9	92	5.1	299	226
7	.22	1.1	8.8	e3.3	e10	e48	24	8.9	62	5.0	213	303
8	.18	.92	7.0	e3.5	e9.6	e43	24	8.7	52	4.3	157	214
9	.18	9.1	5.9	e8.0	e9.2	e43	21	9.0	46	4.6	122	178
10	.23	18	e5.3	e40	e8.8	164	17	9.8	39	3.1	97	149
11	.18	11	e4.7	e32	e11	198	17	8.0	35	42	78	117
12	.10	15	e4.5	e35	e13	112	18	8.5	49	72	64	99
13	.21	19	e5.4	e48	e14	69	17	9.9	39	25	76	113
14	.75	14	7.4	e36	e13	63	17	9.7	36	14	61	116
15	.51	22	e5.5	e28	e12	62	17	11	31	9.9	54	98
16	.19	66	e4.0	e23	e10	45	16	11	28	7.6	47	84
17	14	39	e3.5	e19	e9.4	43	17	8.2	26	4.8	39	72
18	4.6	25	e3.4	e17	e9.4	34	15	10	26	31	34	65
19	.43	28	e4.0	e20	e9.8	28	14	22	23	103	31	59
20	.51	23	e6.0	e23	e10	e25	14	20	21	134	31	52
21	1.4	19	e5.4	e20	e10	24	15	18	21	110	26	49
22	.52	15	7.2	e18	e10	23	16	17	20	93	24	46
23	7.1	14	7.9	e17	e9.0	22	15	19	18	54	21	37
24	1.8	13	6.8	e19	e8.0	23	13	20	16	38	19	36
25	.56	13	4.7	e27	e8.0	24	13	100	16	30	17	37
26	.39	34	e4.2	e32	e10	25	13	62	16	25	16	34
27	.33	33	e10	e27	e11	29	12	43	16	36	15	32
28	.41	26	e15	e25	e9.8	38	22	40	13	45	22	32
29	.33	20	e12	e50	---	42	17	45	10	79	17	29
30	.11	18	e8.5	e48	---	44	14	44	8.9	644	13	28
31	.21	---	e6.8	e41	---	39	---	136	---	e445	18	---
TOTAL	50.89	514.55	227.4	684.2	332.0	1527.7	578	764.6	2273.9	2110.2	3018	2846
MEAN	1.64	17.2	7.34	22.1	11.9	49.3	19.3	24.7	75.8	68.1	97.4	94.9
MAX	14	66	15	50	32	198	34	136	532	644	447	303
MIN	.10	.46	3.4	3.3	8.0	7.3	12	8.0	8.9	3.1	13	28
CFSM	.02	.22	.09	.28	.15	.63	.25	.32	.98	.88	1.25	1.22
IN.	.02	.25	.11	.33	.16	.73	.28	.37	1.09	1.01	1.44	1.36

CAL YR 1988 TOTAL 16120.76 MEAN 44.0 MAX 661 MIN .00 CFSM .57 IN. 7.72
WTR YR 1989 TOTAL 14927.44 MEAN 40.9 MAX 644 MIN .10 CFSM .53 IN. 7.15

e Estimated

05439500 SOUTH BRANCH KISHWAUKEE RIVER NEAR FAIRDALE, IL

LOCATION.--Lat 42°06'40", long 88°54'00", in SW1/4SW1/4 sec.16, T.42 N., R.3 E., De Kalb County, Hydrologic Unit 07090006, on right bank at downstream side of bridge on Irene Road, 1.2 mi downstream from Owens Creek, 1.8 mi northeast of Fairdale, and at mile 11.0.

DRAINAGE AREA.--387 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1308.
REVISED RECORDS.--WSP 1508: 1940, 1942(M). WDR IL-75-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 733.90 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to May 1, 1940, nonrecording gage at same site and datum. Prior to Nov. 7, 1986, water-stage recorder on left bank at upstream side of bridge at same site and datum.
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Effluent from sewage-treatment plants upstream from the gage averaged 8.0 ft^3/s daily. Gage-height telemeter at station.
AVERAGE DISCHARGE.--50 years, 267 ft^3/s, 9.37 in/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,460 ft^3/s, Apr. 22, 1973; maximum gage height, 10.45 ft, Mar. 19, 1979; minimum discharge, 2.1 ft^3/s, Jan. 20, 1940.
EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 11.9 ft occurred in March 1937, from information by a local resident.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	0100	2,330	6.28	Aug. 4	1400	*5,370	*9.29
July 30	1845	2,150	6.05				

Minimum discharge, 9.5 ft^3/s, July 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	80	e76	200	e110	221	65	568	27	1510	367
2	41	22	68	e70	185	e110	205	63	987	24	715	630
3	31	20	67	e64	140	e130	194	60	1030	27	528	498
4	28	28	59	e60	e130	e300	179	59	708	33	3660	365
5	19	41	55	e62	e110	e600	156	60	516	22	4000	292
6	16	42	53	e60	e130	e500	139	59	396	19	3480	393
7	16	25	49	e64	e130	e450	131	57	311	16	2480	1100
8	16	25	45	e72	e120	e400	127	57	255	15	1450	1110
9	17	24	54	e90	e120	e430	120	58	215	13	868	804
10	15	42	63	e180	e130	e900	108	52	183	12	632	623
11	13	85	86	e150	e140	e1300	102	51	148	12	537	528
12	15	54	65	e170	e150	e800	96	52	159	117	463	392
13	14	67	e50	e200	e160	e520	93	56	223	194	398	336
14	15	76	e44	e220	e170	e370	87	54	174	64	417	409
15	13	75	e40	e150	e170	317	87	53	133	36	404	380
16	16	166	e50	e120	e160	285	85	51	117	26	353	315
17	25	246	e55	e90	e140	242	91	46	105	20	304	e300
18	52	197	e62	e75	e130	226	89	44	92	29	265	e270
19	44	142	e60	e90	e120	201	86	48	78	554	233	e250
20	25	134	e56	e100	e120	183	79	78	73	665	213	e240
21	22	118	48	e94	e130	172	77	59	68	482	191	e230
22	20	99	40	e88	e130	152	75	46	65	421	166	e220
23	29	83	45	e84	e130	146	73	44	59	314	151	e210
24	23	75	52	e82	e120	141	72	39	53	225	139	e205
25	38	65	66	e80	e140	140	73	67	48	265	121	e200
26	25	81	56	e100	e140	148	67	139	44	222	104	e190
27	24	143	51	e140	e130	164	66	100	44	164	100	e185
28	23	140	121	e130	e120	204	70	62	41	565	121	e180
29	22	116	135	e120	---	280	95	49	35	412	155	e175
30	22	95	127	e190	---	273	77	52	29	1780	125	e170
31	26	---	e92	213	---	245	---	102	---	1830	99	---
TOTAL	728	2548	1994	3484	3895	10439	3220	1882	6957	8605	24382	11567
MEAN	23.5	84.9	64.3	112	139	337	107	60.7	232	278	787	386
MAX	52	246	135	220	200	1300	221	139	1030	1830	4000	1110
MIN	13	20	40	60	110	110	66	39	29	12	99	170
CFSM	.06	.22	.17	.29	.36	.87	.28	.16	.60	.72	2.03	1.00
IN.	.07	.24	.19	.33	.37	1.00	.31	.18	.67	.83	2.34	1.11

CAL YR 1988 TOTAL 90322 MEAN 247 MAX 3300 MIN 11 CFSM .64 IN. 8.68
WTR YR 1989 TOTAL 79701 MEAN 218 MAX 4000 MIN 12 CFSM .56 IN. 7.66

e Estimated

05439500 SOUTH BRANCH KISHWAUKEE RIVER NEAR FAIRDALE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
26...	1100	17002	17002	25	826	7.80	5.5	2.6	11.4	20	K30
DEC											
22...	1130	17002	17002	44	847	7.70	0.5	2.8	13.7	8	K27
JAN											
23...	1300	17002	17002	84	710	7.80	0.0	6.2	13.5	13	K10
MAR											
02...	1230	17002	17002	110	977	8.00	-0.5	3.7	13.1	11	K10
22...	1500	81700	80020	145	770	7.80	6.5	--	15.0	--	--
APR											
04...	1230	17002	17002	180	766	7.90	8.0	3.1	10.6	11	K10
MAY											
19...	0930	17002	17002	46	824	7.70	17.5	2.9	7.6	28	K160
25...	1215	81700	80020	77	696	7.60	20.5	--	4.4	--	--
JUN											
16...	1000	17002	17002	117	813	8.00	15.0	19	8.0	14	320
JUL											
25...	1100	17002	17002	174	720	7.90	24.0	40	7.7	26	K730

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT										
26...	300	300	68	67	33	33	62	60	6.7	6.5
DEC										
22...	330	330	78	76	36	35	45	43	4.0	3.8
JAN										
23...	300	300	71	69	31	30	34	33	3.3	3.1
MAR										
02...	440	440	100	100	47	47	66	65	4.5	4.4
22...	--	--	--	--	--	--	--	--	--	--
APR										
04...	360	370	87	85	38	37	21	21	1.1	1.5
MAY										
19...	340	340	78	73	40	38	40	38	3.8	4.0
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	380	380	92	89	39	39	23	23	2.8	1.3
JUL										
25...	350	350	89	84	36	35	17	17	1.9	1.7

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05439500 SOUTH BRANCH KISHWAUKEE RIVER NEAR FAIRDALE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
26...	1	1	2.20	--	0.020	<0.001	0.660	0.620	180	150
DEC										
22...	4	4	5.70	--	0.360	0.002	0.710	0.670	350	<50
JAN										
23...	3	2	6.10	--	0.220	0.001	0.460	0.410	200	<50
MAR										
02...	5	4	6.00	--	0.210	0.002	0.620	0.560	200	170
22...	--	--	--	8.70	--	--	--	--	--	--
APR										
04...	8	2	10.3	--	0.090	0.001	0.180	0.150	290	130
MAY										
19...	15	14	1.90	--	0.220	0.004	0.480	0.310	670	450
25...	--	--	--	2.60	--	--	--	--	--	--
JUN										
16...	49	10	12.0	--	0.080	0.002	0.290	0.200	1300	380
JUL										
25...	77	15	12.0	--	0.080	0.003	0.340	0.220	1400	70

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT										
26...	100	110	<0.5	<0.5	140	130	<3	<3	<5	<5
DEC										
22...	100	100	<0.5	<0.5	120	110	<3	<3	<5	<5
JAN										
23...	100	94	<0.5	<0.5	60	60	<3	<3	<5	<5
MAR										
02...	90	84	<0.5	<0.5	100	100	<3	<3	6	7
22...	--	--	--	--	--	--	--	--	--	--
APR										
04...	100	98	<0.5	<0.5	<50	<50	<3	<3	9	7
MAY										
19...	100	78	<0.5	<0.5	100	90	<3	<3	<5	7
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	100	120	<0.5	<0.5	60	50	<3	<3	10	<5
JUL										
25...	200	130	<0.5	<0.5	50	<50	<3	<3	<5	<5

05439500 SOUTH BRANCH KISHWAUKEE RIVER NEAR FAIRDALE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT										
26...	<5	<5	<5	<5	170	66	<5	<5	44	37
DEC										
22...	<5	<5	<5	<5	190	62	<5	<5	53	45
JAN										
23...	<5	<5	<5	<5	210	71	<5	<5	54	47
MAR										
02...	<5	<5	<5	<5	230	53	<5	<5	83	78
22...	--	--	--	--	--	--	--	--	--	--
APR										
04...	<5	<5	<5	<5	310	<50	<5	<5	70	53
MAY										
19...	<5	<5	<5	<5	470	110	<5	<5	170	110
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	<5	<5	<5	<5	1300	<50	11	<5	60	<5
JUL										
25...	<5	<5	<5	<5	1800	<50	<5	<5	110	12

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
26...	<5	<5	<3	<3.0	440	420	<5	<5	<50	<50
DEC										
22...	<5	<5	<3	<3.0	370	350	<5	<5	<50	<50
JAN										
23...	<5	<5	<3	<3.0	240	230	<5	<5	<50	<50
MAR										
02...	<5	<5	<3	<5.0	380	370	<5	<5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--
APR										
04...	<5	<5	<3	<3.0	220	220	<5	<5	<50	<50
MAY										
19...	<5	7	<3	<3.0	330	300	<5	<5	<50	<50
25...	--	--	--	--	--	--	--	--	--	--
JUN										
16...	7	<5	<3	<3.0	220	220	<5	<5	<50	<50
JUL										
25...	<5	<5	<3	<3.0	220	210	<5	<5	<50	<50

05440000 KISHWAUKEE RIVER NEAR PERRYVILLE, IL

LOCATION.--Lat 42°11'45", long 88°59'55", in NE1/4NE1/4 sec.21, T.43 N., R.2 E., Winnebago County, Hydrologic Unit 07090006, on left bank at upstream side of bridge on Blackhawk Road, 1.4 mi downstream from South Branch Kishwaukee River, 2 mi southwest of Perryville, 7.1 mi upstream from Killbuck Creek, and at mile 9.6.

DRAINAGE AREA.--1,099 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.
REVISED RECORDS.--WSP 1175: 1941(P), 1942. WSP 1508: 1941, 1949. WDR IL-75-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 692.13 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 30, 1949, nonrecording gage at same site and datum.
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Illinois Department of Transportation, Division of Water Resources, telemeter at station.
AVERAGE DISCHARGE.--50 years, 728 ft^3/s, 9.00 in/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,700 ft^3/s, Mar. 21, 1979, gage height, 20.48 ft; minimum, 46 ft^3/s, Oct. 6, 7, 10, 1956.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1938 reached a stage of 23.85 ft, from information by the U.S. Army Corps of Engineers.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 11	2345	3,360	9.53	Aug. 5	0745	*5,570	*11.68

Minimum discharge, 82 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	139	362	e260	472	e170	744	293	634	141	1930	1610
2	140	137	325	e245	436	e165	659	276	1290	132	1250	2630
3	159	137	316	e230	357	e165	611	268	1500	125	897	2120
4	128	152	299	e220	304	e270	574	261	1430	135	1980	1580
5	128	173	285	e230	e270	e450	523	253	1160	118	5220	1120
6	116	204	281	e250	e320	e620	479	247	904	107	5060	931
7	114	187	270	e220	e340	e540	452	238	702	99	4140	1520
8	128	176	260	e230	e300	e490	431	233	570	95	2840	1800
9	126	180	221	e310	e280	e470	408	226	483	89	1910	1690
10	113	246	232	e450	e260	e520	385	212	424	84	1480	1470
11	97	297	e205	e420	e260	2710	364	201	375	101	1180	1260
12	94	282	e220	e385	e270	2460	348	196	405	97	976	1060
13	107	281	e235	e500	e285	1430	338	194	505	306	823	943
14	102	303	254	e420	e265	1060	319	191	475	193	744	960
15	108	303	216	e330	e250	942	312	190	410	144	753	982
16	118	397	e200	e280	e240	855	308	190	379	120	665	902
17	127	584	e210	e235	e225	724	312	183	346	105	580	797
18	131	540	e230	e230	e220	627	312	178	315	103	505	707
19	164	455	e250	e230	e225	574	309	190	288	449	454	641
20	141	416	275	e250	e230	535	299	210	263	817	413	599
21	138	395	232	e260	e200	497	291	217	244	720	390	555
22	132	364	209	e245	e195	466	283	187	231	623	354	518
23	142	326	218	e240	e195	442	276	178	217	519	345	487
24	146	306	227	248	e205	426	266	168	203	390	335	457
25	146	292	190	265	e225	425	261	231	188	317	310	428
26	147	352	235	368	e180	434	263	277	179	399	290	410
27	141	476	240	403	e175	463	258	273	179	281	282	391
28	136	504	e230	382	e170	618	290	213	174	673	361	384
29	134	448	e290	378	---	1010	340	191	163	779	498	360
30	137	397	e300	465	---	1020	331	188	151	1650	463	365
31	137	---	e275	504	---	871	---	195	---	2190	384	---
TOTAL	3994	9449	7792	9683	7354	22449	11346	6748	14787	12101	37812	29677
MEAN	129	315	251	312	263	724	378	218	493	390	1220	989
MAX	164	584	362	504	472	2710	744	293	1500	2190	5220	2630
MIN	94	137	190	220	170	165	258	168	151	84	282	360
CFSM	.12	.29	.23	.28	.24	.66	.34	.20	.45	.36	1.11	.90
IN.	.14	.32	.26	.33	.25	.76	.38	.23	.50	.41	1.28	1.00

CAL YR 1988	TOTAL 250599	MEAN 685	MAX 7410	MIN 78	CFSM .62	IN. 8.48
WTR YR 1989	TOTAL 173192	MEAN 474	MAX 5220	MIN 84	CFSM .43	IN. 5.86

e Estimated

05440000 KISHWAUKEE RIVER NEAR PERRYVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
25...	1300	17002	17002	158	741	8.00	6.5	2.0	13.1	10	K85
DEC											
22...	1400	17002	17002	201	754	7.80	1.0	2.1	12.4	<1	K87
JAN											
24...	0830	17002	17002	235	717	7.30	1.0	4.0	12.0	30	K30
MAR											
02...	0930	17002	17002	155	806	7.90	0.0	2.4	15.1	6	<10
22...	1400	81700	80020	464	720	7.60	6.5	--	13.7	--	--
APR											
04...	0930	17002	17002	580	783	7.80	7.5	3.8	9.3	10	K30
MAY											
18...	1500	17002	17002	179	764	8.20	19.0	2.4	11.8	19	K67
25...	1315	81700	80020	225	722	7.80	21.0	--	8.8	--	--
JUN											
16...	0700	17002	17002	385	781	8.00	15.0	11	7.6	13	240
JUL											
25...	0835	17002	17002	317	720	8.10	24.0	35	6.9	24	470

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
OCT											
25...	370	90	84	82	40	40	29	28	3.5	3.4	280
DEC											
22...	350	350	80	79	37	37	23	23	1.8	1.8	--
JAN											
24...	320	320	78	75	35	33	25	24	2.7	2.5	--
MAR											
02...	440	440	100	98	47	47	36	35	3.0	2.8	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	390	390	93	90	40	39	19	19	1.9	1.9	--
MAY											
18...	350	350	78	75	41	40	26	25	2.3	2.6	--
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
16...	390	390	92	90	41	40	20	19	1.0	1.8	--
JUL											
25...	360	360	86	83	36	36	18	18	2.3	2.1	--

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05440000 KISHWAUKEE RIVER NEAR PERRYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)
OCT											
25...	52	--	--	2	2	2.30	--	0.010	<0.001	0.220	0.210
DEC											
22...	68	44	253	4	4	3.20	--	0.090	<0.001	0.250	0.250
JAN											
24...	61	49	245	8	4	4.20	--	0.090	<0.001	0.350	0.320
MAR											
02...	66	57	306	6	5	3.80	--	0.050	<0.001	0.300	0.270
22...	--	--	--	--	--	--	5.30	--	--	--	--
APR											
04...	77	44	271	9	2	7.60	--	0.180	0.002	0.160	0.130
MAY											
18...	69	50	262	10	7	1.40	--	0.050	0.003	0.200	0.130
25...	--	--	--	--	--	--	1.20	--	--	--	--
JUN											
16...	63	46	261	38	11	8.90	--	0.050	0.001	0.200	0.120
JUL											
25...	52	40	232	68	15	9.90	--	0.050	0.003	0.320	0.200

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT											
25...	210	340	60	64	<0.5	<0.5	<50	<50	<3	<3	<5
DEC											
22...	<50	<50	40	40	<0.5	<0.5	50	50	<3	<3	<5
JAN											
24...	140	60	70	65	<0.5	<0.5	50	<50	<3	<3	<5
MAR											
02...	180	150	40	32	<0.5	<0.5	70	70	<3	<3	<5
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	360	130	90	80	<0.5	<0.5	<50	<50	<3	<3	6
MAY											
18...	610	490	70	59	<0.5	<0.5	50	<50	<3	<3	8
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
16...	1100	480	100	97	<0.5	<0.5	50	<50	<3	<3	6
JUL											
25...	1300	60	100	120	<0.5	<0.5	50	50	<3	<3	<5

05440000 KISHWAUKEE RIVER NEAR PERRYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
OCT											
25...	<5	<5	<5	<5	<5	190	76	<5	<5	34	28
DEC											
22...	<5	<5	<5	<5	<5	140	<50	<5	<5	23	19
JAN											
24...	<5	<5	<5	<5	<5	270	<50	<5	<5	49	35
MAR											
02...	<5	<5	<5	<5	<5	210	<50	<5	<5	46	39
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	5	<5	<5	<5	<5	480	<50	<5	<5	67	39
MAY											
18...	<5	<5	<5	6	<5	360	83	<5	<5	79	37
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
16...	<5	<5	<5	<5	<5	950	<50	<5	<5	50	6
JUL											
25...	<5	<5	<5	<5	<5	1600	<50	<5	<5	110	14

DATE	NICKEL TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
OCT											
25...	6	<5	<3	<3.0	200	190	<5	<5	<50	<50	<1
DEC											
22...	<5	<5	<3	<3.0	170	170	<5	<5	<50	<50	<1
JAN											
24...	<5	<5	<3	<3.0	170	170	<5	<5	<50	<50	<1
MAR											
02...	<5	<5	<3	<3.0	210	200	<5	<5	<50	<50	<1
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	<5	<5	<3	<3.0	190	180	<5	<5	<50	<50	6
MAY											
18...	10	<5	<3	<3.0	190	180	<5	<5	<50	<50	<1
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
16...	6	<5	<3	<3.0	190	180	<5	<5	<50	<50	1
JUL											
25...	<50	<50	<3	<3.0	200	200	5	<5	<100	<100	<1

05440520 KILLBUCK CREEK NEAR NEW MILFORD, IL

LOCATION.--Lat 42°09'36", long 89°04'32", in SW1/4NW1/4 sec.35, T.43 N., R.1 E., Winnebago County, Hydrologic Unit 07090006, at bridge on State Highway 251, 1.7 mi south of New Milford, 12.8 mi downstream from Spring Run, and at mile 2.4.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--Water years 1979 to current year. Additional chemical data for water years 1958, 1960-63, 1965-77 are published in Water-Resources Investigations 78-23 and 79-24 as site PBQ 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
26...	0800	17002	17002	15	694	7.40	4.5	1.7	10.3	4	K30	380
DEC												
22...	1300	17002	17002	31	673	7.80	1.0	2.3	12.3	<1	K13	340
JAN												
23...	1430	17002	17002	44	667	8.10	3.0	4.0	14.6	4	K10	330
MAR												
02...	1100	17002	17002	26	720	7.90	0.0	2.0	13.6	6	5	420
APR												
04...	1130	17002	17002	188	688	7.80	8.0	2.4	12.4	4	K30	350
MAY												
19...	0800	17002	17002	41	623	7.80	17.0	1.9	8.1	15	K1800	310
JUN												
16...	0830	17002	17002	55	750	7.90	14.5	23	8.5	8	960	390
JUL												
25...	0939	17002	17002	48	741	8.10	24.0	30	7.0	17	K1300	380

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT												
26...	380	84	83	44	43	8.5	8.3	1.7	1.7	1	1	4.00
DEC												
22...	340	74	73	38	38	9.9	9.9	1.1	1.1	2	2	5.20
JAN												
23...	330	74	72	37	36	11	11	1.6	1.6	7	2	5.60
MAR												
02...	--	91	--	47	--	12	13	1.5	1.6	13	6	5.60
APR												
04...	350	82	79	39	38	11	11	0.6	1.1	4	2	10.4
MAY												
19...	310	63	62	39	38	9.0	9.0	0.7	1.0	7	6	2.20
JUN												
16...	390	90	90	41	41	9.9	10	0.3	0.30	41	10	14.0
JUL												
25...	380	93	89	40	39	11	10	1	0.30	59	13	14.0

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05440520 KILLBUCK CREEK NEAR NEW MILFORD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT 26...	0.520	0.002	0.020	0.020	230	170	60	62	<0.5	<0.5	<50	<50
DEC 22...	0.670	0.004	0.020	0.020	<50	<50	40	42	<0.5	<0.5	<50	<50
JAN 23...	0.390	0.005	0.040	0.020	160	60	60	55	<0.5	<0.5	<50	<50
MAR 02...	0.580	0.004	0.040	0.030	240	120	20	26	<0.5	<0.5	<50	<50
APR 04...	0.170	0.002	0.025	0.011	250	120	70	70	<0.5	<0.5	<50	<50
MAY 19...	0.470	0.010	0.060	0.030	640	440	60	59	<0.5	<0.5	<50	<50
JUN 16...	0.180	0.004	0.120	0.050	1300	500	100	90	<0.5	<0.5	<50	<50
JUL 25...	0.110	0.007	0.160	0.080	1200	70	100	110	<0.5	<0.5	<50	<50

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT 26...	<3	<3	<5	<5	<5	<5	<5	<5	170	<50	<5	<5
DEC 22...	<3	<3	<5	<5	<5	<5	<5	<5	110	<50	<5	<5
JAN 23...	<3	<3	6	<5	<5	<5	<5	<5	250	<50	<5	<5
MAR 02...	<3	<3	<5	<5	<5	<10	<5	<5	270	<50	<5	<5
APR 04...	<3	<3	5	<5	<5	<5	<5	<5	690	<50	<5	<5
MAY 19...	<3	<3	7	5	<5	<5	<5	<5	390	85	<5	<5
JUN 16...	<3	<3	<5	<5	<5	<5	<5	<5	1200	<50	<5	<5
JUL 25...	<3	<3	<5	<5	<5	<5	<5	<5	1400	<50	<5	<5

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS SOLVED (UG/L AS ZN) (01090)
OCT												
26...	31	26	<5	<5	<3	<3.0	110	110	<5	<5	<100	<100
DEC												
22...	29	26	<5	<5	<3	<3.0	100	100	<5	<5	<50	<50
JAN												
23...	40	29	5	<5	<3	<3.0	100	94	<5	<5	<50	<50
MAR												
02...	70	42	<5	<5	<3	<3.0	100	--	<5	<10	<50	<50
APR												
04...	58	44	<5	<5	<3	<3.0	120	110	<5	<5	<50	<50
MAY												
19...	120	78	9	5	<3	<3.0	90	90	<5	<5	<50	<50
JUN												
16...	53	8	<5	<5	<3	<3.0	120	120	<5	<5	<50	<50
JUL												
25...	90	12	<10	<10	<3	<3.0	150	140	<5	<5	<50	<50

05442020 KYTE RIVER AT DAYSVILLE, IL

LOCATION.--Lat 41°59'09", long 89°17'40", in SW1/4NW1/4 sec.13, T.23 N., R.10 E., Ogle County, Hydrologic Unit 07090005, at bridge on Honey Creek Road, 0.4 mi upstream from the mouth of Honey Creek, 0.9 mi southwest of the town of Honey Creek, 1.2 mi east of Daysville, and at mile 2.2.

DRAINAGE AREA.--179 mi^2.

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT 20...	1330	17002	17002	21	667	7.80	9.5	2.9	10.9	11	250	270
NOV 22...	1430	17002	17002	35	957	7.00	5.0	3.1	11.9	8	K80	370
JAN 12...	1300	17002	17002	74	860	7.80	-0.5	13	12.5	20	K170	320
FEB 23...	1200	17002	17002	54	1200	7.50	0.0	2.3	9.8	22	K10	390
MAR 23...	0930	17002	17002	57	859	8.10	4.0	2.1	10.9	8	K10	340
APR 19...	1430	17002	17002	44	900	8.30	13.5	2.2	12.9	8	K40	370
MAY 24...	1245	17002	17002	29	1050	8.40	24.0	2.0	9.3	22	220	350
JUN 28...	1115	17002	17002	45	978	8.40	24.5	3.1	8.9	17	450	360

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
OCT 20...	270	61	60	30	30	39	39	4.2	4.2	10	7	2.80
NOV 22...	370	83	82	41	40	62	61	4.1	4.2	4	4	4.80
JAN 12...	320	73	72	36	35	55	55	3.9	3.8	11	10	4.20
FEB 23...	390	89	86	45	43	120	120	6.2	6.0	3	1	4.30
MAR 23...	340	80	75	38	36	38	36	2.4	2.5	7	1	6.00
APR 19...	370	83	81	42	41	52	51	0.8	2.0	3	3	3.90
MAY 24...	360	76	76	40	40	86	85	4.9	6.4	11	7	2.00
JUN 28...	360	80	77	41	40	72	70	3.9	3.5	17	10	2.50

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05442020 KYTE RIVER AT DAYSVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYLLIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT												
20...	0.050	<0.001	1.17	1.15	230	60	40	35	<0.5	<0.5	<50	<50
NOV												
22...	0.460	<0.001	1.09	1.03	<50	<50	40	41	<0.5	<0.5	60	50
JAN												
12...	1.30	0.007	1.08	1.03	310	<50	50	46	<0.5	<0.5	<50	<50
FEB												
23...	2.50	0.007	1.68	1.56	200	180	10	9	<0.5	<0.5	60	60
MAR												
23...	0.210	0.003	0.500	0.460	130	100	50	47	<0.5	<0.5	<50	<50
APR												
19...	0.020	<0.001	0.750	0.670	780	700	60	56	<1.0	<1	<50	<50
MAY												
24...	0.140	0.017	0.870	0.770	670	480	60	61	<0.5	<0.5	70	70
JUN												
28...	0.050	0.006	1.09	0.930	290	50	70	69	<0.5	<0.5	<50	<50

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHROMIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
OCT												
20...	<3	<3	6	<5	<5	<5	<5	<5	170	<50	<5	<5
NOV												
22...	<3	<3	<5	<5	<5	<5	<5	<5	200	<50	<5	<5
JAN												
12...	<3	<3	5	<5	<5	<5	<5	<5	480	<50	9	<5
FEB												
23...	<3	<3	<5	<5	<5	<5	<5	<5	230	100	<5	<5
MAR												
23...	<3	<3	<5	6	<5	<5	<5	<5	140	<50	<5	<5
APR												
19...	<3	<3	8	6	<5	<5	<5	<5	230	120	<5	<5
MAY												
24...	<3	<3	8	10	<5	<5	<5	<5	360	92	<5	<5
JUN												
28...	<3	<3	<5	<5	<5	<5	<5	<5	300	<50	<5	<5

05442020 KYTE RIVER AT DAYSVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
OCT												
20...	85	71	<5	<5	<3	<3.0	110	110	<5	<5	<50	<50
NOV												
22...	100	95	<5	<5	<3	<3.0	150	150	<5	<5	120	<50
JAN												
12...	120	94	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50
FEB												
23...	160	150	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
MAR												
23...	110	95	<5	6	<3	<3.0	120	120	<5	<5	<50	<50
APR												
19...	92	80	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
MAY												
24...	140	120	14	15	<3	<3.0	150	150	<5	6	<50	<50
JUN												
28...	68	42	7	<5	<3	<3.0	170	170	<5	<5	<50	<50

05443500 ROCK RIVER AT COMO, IL

LOCATION.--Lat 41°47'00", long 89°44'53", in NE1/4 sec.25, T.21 N., R.6 E., Whiteside County, Hydrologic Unit 07090005, on left bank, 1 mi upstream from Como, 3 mi downstream from Rock Falls, 3.5 mi upstream from Elkhorn Creek, and at mile 69.2.

DRAINAGE AREA.--8,753 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to December 1905, October 1914 to September 1971, annual maximums, water years 1972-77, October 1977 to September 1986. Seven-month period (March to September), water year 1987 to current year. Published as "at Sterling" 1905-6 and as "at Lyndon" 1914-34. Records published for both sites December 1933 to September 1934. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1308: 1915(M), 1917-18(M), 1922(M), 1924(M), 1926(M), 1928(M), 1931-32(M), 1934(M). WDR IL-79-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 606.83 ft above National Geodetic Vertical Datum of 1929. Jan. 6, 1905, to Feb. 17, 1906, nonrecording gage at Sterling, 3 mi upstream, at different datum. Nov. 24, 1914, to Sept. 30, 1934, nonrecording gage at site at Lyndon, 16.5 mi downstream at datum 22.46 ft lower.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Some diurnal fluctuation caused by powerplants above station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--66 years (water years 1915-71, 1978-86), 5,299 ft^3/s, 8.22 in/yr, discharge for site at Lyndon adjusted for difference in drainage area.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,700 ft^3/s, Apr. 21, 1973, gage height, 15.66 ft, from rating curve extended above 41,200 ft^3/s; maximum gage height, 17.51 ft, Feb. 7, 1938, backwater from ice; minimum daily discharge, 440 ft^3/s (498 ft^3/s, site then in use), Aug. 20, 1934.

EXTREMES FOR PERIOD MARCH TO SEPTEMBER OF CURRENT YEAR.--Maximum discharge, 15,900 ft^3/s, Mar. 12, gage height, 6.82 ft; minimum daily discharge, 841 ft^3/s, July 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e2750	8070	4130	3410	1620	4790	4640
2	---	---	---	---	---	e2350	7670	3750	3070	1620	4280	6570
3	---	---	---	---	---	e2900	7320	3780	3920	1230	3630	6500
4	---	---	---	---	---	e3000	6970	3750	4550	841	4280	6030
5	---	---	---	---	---	e5000	6950	3360	4410	1480	6090	5470
6	---	---	---	---	---	e5500	6660	3510	3730	1230	10800	5670
7	---	---	---	---	---	5810	6460	3270	3410	1290	8620	5160
8	---	---	---	---	---	5780	6810	3570	2520	1090	7570	5260
9	---	---	---	---	---	5020	6390	3640	2850	999	5690	6080
10	---	---	---	---	---	4940	6190	2230	2930	1190	5010	5850
11	---	---	---	---	---	10600	3760	3030	2880	1550	4100	5690
12	---	---	---	---	---	13200	5460	3060	3190	1230	3690	5370
13	---	---	---	---	---	10900	5450	3010	3770	1510	3510	5600
14	---	---	---	---	---	8610	5440	2870	3550	1490	3500	5080
15	---	---	---	---	---	8800	5030	2890	3570	1460	3080	4790
16	---	---	---	---	---	9230	5130	2780	3270	1270	2960	4820
17	---	---	---	---	---	9290	5010	2650	3160	1210	3100	4580
18	---	---	---	---	---	9770	4900	2880	3180	1300	3060	4230
19	---	---	---	---	---	9590	4910	2500	3210	1890	2650	4070
20	---	---	---	---	---	9200	4410	2600	2780	2510	2530	3890
21	---	---	---	---	---	9070	4690	2710	3030	2930	2590	3830
22	---	---	---	---	---	8270	4260	2290	2670	2750	2320	3550
23	---	---	---	---	---	7240	4600	2150	2660	2850	2680	3560
24	---	---	---	---	---	6480	4500	2340	2630	2940	2250	3370
25	---	---	---	---	---	6110	3180	2740	2430	2570	2020	2880
26	---	---	---	---	---	6040	4000	2200	2250	2390	2270	3110
27	---	---	---	---	---	6230	4000	2170	2340	2300	2180	2990
28	---	---	---	---	---	6730	3840	2090	2150	2540	2260	2580
29	---	---	---	---	---	7520	3810	1930	1810	2730	2640	2760
30	---	---	---	---	---	8020	4130	1730	1930	3430	2700	2600
31	---	---	---	---	---	8200	---	2240	---	4620	2980	---
TOTAL	---	---	---	---	---	222150	160000	87850	91260	60060	119830	136580
MEAN	---	---	---	---	---	7166	5333	2834	3042	1937	3865	4553
MAX	---	---	---	---	---	13200	8070	4130	4550	4620	10800	6570
MIN	---	---	---	---	---	2350	3180	1730	1810	841	2020	2580
CFSM	---	---	---	---	---	.82	.61	.32	.35	.22	.44	.52
IN.	---	---	---	---	---	.94	.68	.37	.39	.26	.51	.58

e Estimated

05443500 ROCK RIVER AT COMO, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1978 to current year. Additional chemical data for water years 1959, 1961-77 are published in Water-Resources Investigations 78-23 and 79-24 as site P 06.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
19...	1515	17002	17002	2000	625	8.60	14.0	7.8	15.7	41	K160	310
NOV												
22...	1130	17002	17002	3400	690	7.80	4.5	7.3	12.2	16	220	320
JAN												
12...	0900	17002	17002	3510	712	7.50	0.0	6.4	14.8	21	K160	320
FEB												
23...	1500	17002	17002	2200	725	8.10	0.5	4.2	11.7	26	K27	370
MAR												
22...	0800	17002	17002	8580	508	7.70	1.0	21	13.2	55	250	220
APR												
20...	0900	17002	17002	4820	526	8.50	11.0	19	12.2	35	<10	270
MAY												
25...	0800	17002	17002	2850	560	8.60	21.5	7.8	7.0	44	480	250
JUN												
27...	1400	17002	17002	2510	660	7.80	28.0	8.8	5.7	35	K190	300

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
OCT											
19...	310	61	55	44	42	26	25	3.4	3.2	34	45
NOV											
22...	320	71	65	41	38	25	23	3.0	2.7	51	43
JAN											
12...	320	65	63	41	40	30	29	3.1	3.0	59	56
FEB											
23...	370	77	74	48	46	29	28	3.9	3.5	50	45
MAR											
22...	220	50	47	29	25	17	15	5.8	4.9	40	32
APR											
20...	280	62	54	35	34	16	16	0.6	1.7	49	32
MAY											
25...	250	45	40	39	37	21	21	2.9	2.7	51	38
JUN											
27...	300	55	51	42	41	25	25	3.6	3.0	59	46

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05443500 ROCK RIVER AT COMO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)
OCT											
19...	205	52	20	2.50	0.040	0.004	1.9	1.9	4.4	0.240	0.050
NOV											
22...	223	10	7	3.20	0.320	0.003	0.78	1.1	4.3	0.230	0.180
JAN											
12...	250	11	11	3.30	0.180	<0.001	1.3	1.5	4.8	0.310	0.130
FEB											
23...	247	21	3	3.30	0.360	0.004	1.4	1.8	5.1	0.300	0.090
MAR											
22...	164	79	15	2.70	1.20	0.006	2.2	3.4	6.1	0.510	0.250
APR											
20...	187	47	16	1.80	0.050	0.003	2.0	2.0	3.8	0.210	0.080
MAY											
25...	190	43	18	0.200	0.080	0.013	2.1	2.2	2.4	0.260	0.070
JUN											
27...	225	34	10	0.900	0.640	0.029	1.8	2.4	3.3	0.340	0.190

DATE	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)
OCT											
19...	540	100	50	36	<0.5	<0.5	90	90	<3	<3	<5
NOV											
22...	120	<50	50	48	<0.5	<0.5	50	<50	<3	<3	<5
JAN											
12...	90	<50	50	43	<0.5	<0.5	<50	<50	<3	<3	<5
FEB											
23...	280	130	10	7	<0.5	<0.5	60	50	<3	<3	<5
MAR											
22...	960	<50	30	9	<0.5	<0.5	<50	<50	<3	<3	<5
APR											
20...	1100	650	50	41	<1.0	<0.5	<50	<50	<3	<3	<5
MAY											
25...	810	400	50	43	<0.5	<0.5	<50	<50	<3	<3	5
JUN											
27...	370	50	70	59	<0.5	<0.5	50	<50	<3	<3	<5

05443500 ROCK RIVER AT COMO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
OCT 19...	<5	<5	<5	<5	<5	560	<50	<5	<5	81	<5
NOV 22...	<5	<5	<5	<5	<5	210	<50	<5	<5	40	8
JAN 12...	<5	<5	<5	<5	<5	170	<50	<5	<5	30	11
FEB 23...	<5	<5	<5	<5	<5	360	<50	<5	<5	48	11
MAR 22...	<5	<5	<5	<5	<5	1700	<50	100	<5	140	12
APR 20...	<5	<5	<5	<5	<5	670	<50	<5	<5	100	<5
MAY 25...	5	<5	<5	<5	<5	730	<50	12	<5	180	<5
JUN 27...	<5	<5	<5	<5	<5	570	<50	6	<5	160	10

DATE	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
OCT 19...	<5	<5	<3	<3.0	90	83	<5	<5	<50	<50	<1
NOV 22...	<5	<5	<3	<3.0	110	98	<5	<5	<100	<100	<1
JAN 12...	<5	<5	<3	<3.0	100	100	<5	<5	<100	<100	1
FEB 23...	<5	<5	<3	<3.0	110	100	<5	<5	<50	<50	1
MAR 22...	<5	<5	<3	<3.0	90	78	<5	<5	<50	<50	1
APR 20...	<5	<5	<3	<3.0	100	97	<5	<5	<100	<100	<1
MAY 25...	10	10	<3	<3.0	90	83	<5	<5	<50	<50	1
JUN 27...	6	<5	<3	<3.0	110	110	<5	<5	<100	<100	--

05444000 ELKHORN CREEK NEAR PENROSE, IL

LOCATION.--Lat 41°54'10", long 89°41'40", in SW1/4SE1/4 sec.9, T.22 N., R.7 E., Whiteside County, Hydrologic Unit 07090005, on left bank 50 ft upstream from highway bridge, 2 mi northwest of Penrose, 2.2 mi downstream from Buffalo Creek, 5 mi upstream from Sugar Creek, and at mile 17.5.

DRAINAGE AREA.--146 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.
REVISED RECORDS.--WSP 925: 1940. WSP 955: 1941. WSP 1175: 1941(P), 1948(P). WSP 1308: 1950(M). WDR IL-72-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 657.85 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 6, 1940, nonrecording gage at same site and datum.
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Gage-height telemeter at station.
AVERAGE DISCHARGE.--50 years, 97.7 ft^3/s, 9.09 in/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,770 ft^3/s, May 17, 1974, gage height, 16.53 ft; maximum gage height, 17.75 ft, Jan. 5, 1946; minimum discharge, 1.9 ft^3/s, Jan. 3, 1976, result of freezeup.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1938 reached a stage of 19.6 ft, from U.S. Army Corps of Engineers high-water mark.
EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 10	1845	*3,270	*11.12	Sept. 1	0530	1,870	8.34
Aug. 31	2030	1,230	6.82				

Minimum discharge, 17 ft^3/s, Dec. 25, result of freezeup.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	35	41	41	59	e33	65	33	100	26	24	890
2	55	33	37	42	45	33	60	34	47	26	24	204
3	41	33	40	39	e42	48	59	34	76	26	24	97
4	36	35	38	e40	e40	409	55	33	84	25	155	73
5	34	34	38	39	e37	520	53	33	53	25	192	62
6	35	34	38	38	e40	170	52	32	43	25	138	66
7	33	34	38	73	e45	105	49	31	39	25	69	150
8	33	34	34	196	e50	77	47	30	36	25	54	97
9	33	35	33	194	e55	169	47	31	34	25	46	99
10	33	38	38	138	e60	1320	47	31	33	24	41	148
11	33	40	e45	97	e55	1250	47	30	32	24	38	113
12	34	39	43	164	e50	380	46	30	33	24	35	90
13	34	41	39	128	e45	106	42	30	34	27	34	83
14	34	42	37	56	e42	86	38	30	33	26	34	81
15	34	42	44	46	40	88	37	30	31	24	33	75
16	34	51	e50	46	e39	70	37	29	31	24	33	69
17	35	53	e45	41	e38	62	37	29	30	24	33	65
18	38	45	43	43	e37	49	37	29	31	24	32	61
19	34	45	41	56	36	52	37	29	31	31	32	57
20	32	42	41	71	37	51	37	28	29	31	32	53
21	33	41	41	63	36	48	37	28	28	29	32	52
22	35	37	38	43	e40	47	37	28	28	29	31	51
23	35	37	42	46	e40	47	37	27	28	27	30	47
24	35	37	41	47	e39	47	35	58	28	25	30	46
25	36	37	35	52	41	47	33	61	27	25	30	46
26	34	44	42	227	35	47	33	35	27	32	34	46
27	34	54	75	69	e35	47	33	31	27	29	38	45
28	34	52	e65	58	33	58	36	30	25	25	33	44
29	33	47	e55	274	---	108	36	29	25	24	37	44
30	33	44	e45	158	---	85	36	28	25	24	35	43
31	35	---	43	70	---	72	---	44	---	25	304	---
TOTAL	1088	1215	1325	2695	1191	5731	1282	1015	1128	805	1737	3097
MEAN	35.1	40.5	42.7	86.9	42.5	185	42.7	32.7	37.6	26.0	56.0	103
MAX	55	54	75	274	60	1320	65	61	100	32	304	890
MIN	32	33	33	38	33	33	33	27	25	24	24	43
CFSM	.24	.28	.29	.60	.29	1.27	.29	.22	.26	.18	.38	.71
IN.	.28	.31	.34	.69	.30	1.46	.33	.26	.29	.21	.44	.79

CAL YR 1988 TOTAL 29921 MEAN 81.8 MAX 1890 MIN 27 CFSM .56 IN. 7.62
WTR YR 1989 TOTAL 22309 MEAN 61.1 MAX 1320 MIN 24 CFSM .42 IN. 5.68

e Estimated

05444000 ELKHORN CREEK NEAR PENROSE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
20...	0830	17002	17002	33	689	8.20	9.0	3.2	9.1	16	450
NOV											
22...	1300	17002	17002	36	712	8.30	4.0	3.6	12.4	<1	K130
JAN											
11...	1430	17002	17002	87	647	7.60	0.0	7.2	12.0	18	K140
FEB											
23...	1330	17002	17002	40	700	7.80	0.5	6.8	11.4	13	K10
MAR											
21...	1430	17002	17002	48	679	8.00	5.5	5.8	12.4	10	K6
22...	1200	81700	80020	47	671	7.30	6.0	--	12.8	--	--
APR											
19...	1630	17002	17002	37	656	8.40	15.5	4.4	14.8	4	440
MAY											
24...	1500	17002	17002	85	681	8.20	23.0	4.9	10.5	14	360
25...	1000	81700	80020	40	643	7.70	19.0	--	7.1	--	--
JUN											
27...	1600	17002	17002	27	663	8.40	25.5	15	12.2	30	840

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT										
20...	380	380	87	81	45	43	9.7	9.3	2.8	2.5
NOV										
22...	380	380	83	82	44	43	11	11	1.3	1.3
JAN										
11...	320	320	71	69	37	36	10	11	3.1	3.1
FEB										
23...	440	440	95	93	51	50	11	13	1.3	1.3
MAR										
21...	360	360	81	79	41	40	9.2	9.3	1.8	1.8
22...	--	--	--	--	--	--	--	--	--	--
APR										
19...	350	350	70	70	43	43	9.3	9.7	<0.3	<0.30
MAY										
24...	360	360	74	75	42	42	9.2	9.4	1.1	1.1
25...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	360	360	79	76	43	42	9.6	9.4	0.3	0.30

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05444000 ELKHORN CREEK NEAR PENROSE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT										
20...	19	10	6.90	--	0.040	0.001	0.120	0.080	2600	110
NOV										
22...	4	3	8.20	--	0.030	<0.001	0.140	0.100	80	<50
JAN										
11...	9	6	7.50	--	0.490	0.002	0.220	0.170	200	<50
FEB										
23...	29	3	8.80	--	0.050	<0.001	0.110	0.070	480	160
MAR										
21...	36	3	11.0	--	0.170	0.002	0.150	0.110	310	<50
22...	--	--	--	7.90	--	--	--	--	--	--
APR										
19...	11	3	6.50	--	0.030	0.002	0.070	--	1000	770
MAY										
24...	18	5	5.40	--	0.140	0.011	0.130	0.060	830	460
25...	--	--	--	4.90	--	--	--	--	--	--
JUN										
27...	78	15	5.00	--	0.160	0.022	0.230	0.110	1400	<50

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT										
20...	70	59	<0.5	<0.5	<50	<50	<3	<3	8	<5
NOV										
22...	30	53	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JAN										
11...	60	56	<0.5	<0.5	<50	<50	<3	<3	<5	<5
FEB										
23...	20	19	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR										
21...	40	33	<0.5	<0.5	<50	<50	<3	<3	<5	<5
22...	--	--	--	--	--	--	--	--	--	--
APR										
19...	70	62	<1.0	<0.5	<50	<50	<3	<3	<5	6
MAY										
24...	90	85	<0.5	<0.5	<50	<50	<3	<3	7	7
25...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	100	81	<0.5	<0.5	<50	<50	<3	<3	<5	<5

05444000 ELKHORN CREEK NEAR PENROSE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT										
20...	<5	<5	7	<5	520	120	7	<5	110	47
NOV										
22...	<5	<5	<5	<5	100	<50	<5	<5	51	44
JAN										
11...	<5	<5	<5	<5	290	<50	<5	<5	84	70
FEB										
23...	<10	<5	<5	<5	500	<50	<5	<5	110	73
MAR										
21...	<5	<5	<5	<5	380	<50	<5	<5	130	100
22...	--	--	--	--	--	--	--	--	--	--
APR										
19...	<5	<5	<5	<5	380	<50	<5	<5	85	53
MAY										
24...	<5	<5	<5	<5	570	54	<5	<5	260	220
25...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	<5	<5	7	<5	1500	<50	<5	<5	210	85

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT										
20...	9	<5	<3	<3.0	100	88	<5	<5	<50	<50
NOV										
22...	<5	<5	<3	<3.0	90	88	<5	<5	<50	<50
JAN										
11...	<5	<5	<3	<3.0	70	70	<5	<5	<50	<50
FEB										
23...	<5	<5	<3	<3.0	90	85	<10	<5	<50	<50
MAR										
21...	<10	<5	<3	<3.0	90	87	<5	<5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--
APR										
19...	<5	<5	<3	<3.0	80	82	<5	<5	<50	<50
MAY										
24...	9	10	<3	<3.0	80	80	<5	<5	<50	<50
25...	--	--	--	--	--	--	--	--	--	--
JUN										
27...	12	<5	<3	<3.0	90	82	8	<5	<50	<50

05446500 ROCK RIVER NEAR JOSLIN, IL
(National stream-quality accounting network station)

LOCATION.--Lat 41°33'35", long 90°10'55", in NE1/4 sec.18, T.18 N., R.3 E., Rock Island County, Hydrologic Unit 07090005, on right bank at downstream side of bridge on State Highway 92, 1.8 mi east of Joslin, 12 mi downstream from Rock Creek, and at mile 26.9.

DRAINAGE AREA.--9,549 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WDR IL-79-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 564.06 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 6, 1940, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Some diurnal fluctuation caused by powerplants above station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 6,160 ft^3/s, 8.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 46,200 ft^3/s, Mar. 22, 1948, gage height, 14.46 ft; maximum gage height, 17.81 ft, Mar. 22, 1979; minimum daily discharge, 834 ft^3/s, Jan. 3, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,000 ft^3/s, Mar. 13; maximum gage height, 10.88 ft, Mar. 11 (backwater from ice); minimum daily discharge, 1,400 ft^3/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	2230	4630	e3620	5280	e2620	8620	4410	3380	2270	4550	3930
2	2220	2370	4480	e3700	5750	e2570	8500	4530	4550	2100	4680	6570
3	2210	2310	3630	e3550	6210	e2360	8130	4110	3720	2060	4220	7150
4	2290	2210	4110	e3330	5050	e2580	7810	4110	5010	1760	3760	6720
5	2150	2280	4160	e3000	e4540	e3500	7490	4100	5110	1420	4820	6050
6	2120	2300	4090	e3350	e3470	e5200	7420	3790	4770	1420	6850	5730
7	2150	2410	3970	e3830	e2960	e5100	7140	3850	4070	1610	10500	5850
8	2150	2550	3940	e3390	e3630	e5000	7050	3650	3740	1610	8260	5570
9	2150	2530	3860	e2710	e4080	e5060	7220	4430	2960	1470	7550	5890
10	2130	2740	3850	e2690	e4160	e5750	6940	3520	3180	1400	5500	6360
11	2010	3070	3580	e3100	e4200	e8500	6650	2770	3220	1510	5080	6310
12	2050	3230	3340	e3820	e4080	e11100	4190	3310	3390	1840	4180	5960
13	1990	3240	e3140	e4270	e4000	e11400	6230	3350	3740	1550	3830	5660
14	2060	3270	e4260	e4180	e3890	e10300	6040	3290	4170	1720	3680	5850
15	1950	3440	e3900	e4040	e3790	8990	5770	3180	4000	1800	3720	5300
16	2060	3480	e3480	e3810	e3510	9280	5640	3180	3860	1720	3250	5000
17	2010	3590	e3470	e3770	e3400	9520	5600	3080	3670	1560	3110	4960
18	2220	4000	e3350	e3640	e3300	9520	5490	2980	3490	1520	3180	4780
19	2240	3910	e3610	e3590	e3230	9820	5410	3180	3540	1580	3150	4440
20	2150	3810	e4140	e3710	e3150	9640	5370	2860	3490	2200	2820	4280
21	2340	3920	e4760	e3720	e2960	9430	4830	2940	3210	2690	2700	4060
22	2270	3910	e4340	e3790	e2860	9250	4990	2950	3200	2950	2720	3970
23	2340	3860	e3850	e4020	e2770	8420	5000	2560	2970	2850	2590	3730
24	2290	3590	e3610	e4260	e2630	7610	4920	2620	2940	2920	2810	3690
25	2400	3450	e3080	e4410	e2580	6980	4900	2690	2900	2990	2480	3570
26	2370	3620	e2950	e4460	e2430	6700	3600	2910	2740	2700	2340	3120
27	2340	3800	e3440	e4880	e2570	6600	4520	2550	2600	2560	2520	3270
28	2280	3880	e3420	e5210	e2500	6900	4380	2450	2620	2490	2450	3170
29	2350	4970	e3040	5090	---	7460	4260	2380	2450	2650	2470	2860
30	2400	4250	e2900	5360	---	8240	4260	2250	2280	2860	2770	2940
31	2340	---	e3210	5240	---	8580	---	2140	---	3480	2810	---
TOTAL	68190	98220	115590	121540	102980	223980	178370	100120	104970	65660	125350	146740
MEAN	2200	3274	3729	3921	3678	7225	5946	3230	3499	2118	4044	4891
MAX	2400	4970	4760	5360	6210	11400	8620	4530	5110	3480	10500	7150
MIN	1950	2210	2900	2690	2430	2360	3600	2140	2280	1400	2340	2860
CFSM	.23	.34	.39	.41	.39	.76	.62	.34	.37	.22	.42	.51
IN.	.27	.38	.45	.47	.40	.87	.69	.39	.41	.26	.49	.57

CAL YR 1988 TOTAL 1966620 MEAN 5373 MAX 24000 MIN 1590 CFSM .56 IN. 7.66
WTR YR 1989 TOTAL 1451710 MEAN 3977 MAX 11400 MIN 1400 CFSM .42 IN. 5.66

e Estimated

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING DEPTH (FEET) (00003)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)
OCT												
03...	1030	17002	17002	2220	--	--	610	8.30	17.5	13	9.4	30
03...	1115	81700	17002	2220	--	--	621	8.72	17.5	19	9.6	43
NOV												
22...	1300	81700	80020	3910	--	--	676	8.69	3.5	5.4	13.5	23
22...	1302	81700	81700	--	1.00	75.0	672	8.75	4.0	--	13.4	--
22...	1303	81700	81700	--	1.00	135	675	8.67	3.5	--	13.4	--
22...	1304	81700	81700	--	1.00	195	677	8.76	3.5	--	13.5	--
22...	1305	81700	17002	--	--	--	676	8.69	3.5	16	13.5	23
22...	1306	81700	81700	--	1.00	255	675	8.74	3.5	--	13.4	--
22...	1307	81700	81700	--	1.00	315	675	8.72	3.5	--	13.3	--
22...	1308	81700	81700	--	1.00	375	676	8.70	3.5	--	13.4	--
22...	1309	81700	81700	--	1.00	435	675	8.63	3.5	--	13.3	--
22...	1310	81700	81700	--	1.00	495	676	8.69	3.5	--	13.5	--
22...	1311	81700	81700	--	1.00	555	676	8.63	3.5	--	13.6	--
22...	1312	81700	81700	--	1.00	615	677	8.65	3.5	--	13.8	--
JAN												
05...	1230	81700	17002	3000	--	--	355	7.15	0.0	2.0	15.4	21
MAR												
22...	1000	17002	17002	9310	--	--	490	7.80	2.0	29	13.2	53
22...	1030	81700	17002	9310	--	--	498	8.04	2.0	2.8	13.1	55
22...	1245	81700	80020	9500	--	--	496	8.10	3.0	35	13.1	--
22...	1249	81700	81700	--	1.00	35.0	493	8.14	2.5	--	13.2	--
22...	1251	81700	81700	--	1.00	115	494	8.22	2.5	--	13.2	--
22...	1253	81700	81700	--	1.00	185	494	8.04	2.5	--	13.2	--
22...	1255	81700	81700	--	1.00	255	495	8.02	2.5	--	13.1	--
22...	1257	81700	81700	--	1.00	325	495	8.15	3.0	--	13.1	--
22...	1259	81700	81700	--	1.00	395	498	8.04	3.0	--	13.1	--
22...	1301	81700	81700	--	1.00	465	496	8.18	3.0	--	13.1	--
22...	1303	81700	81700	--	1.00	535	496	8.20	3.0	--	13.0	--
22...	1305	81700	81700	--	1.00	615	497	8.18	3.0	--	13.0	--
22...	1307	81700	81700	--	1.00	685	497	8.22	3.0	--	13.1	--
APR												
18...	1310	81700	17002	5510	--	--	529	9.30	10.5	7.5	13.8	46
MAY												
23...	1000	81700	80020	2820	--	--	553	8.90	19.5	15	11.7	--
23...	1003	81700	81700	--	1.00	26.0	549	8.80	19.0	--	10.8	--
23...	1005	81700	81700	--	1.00	86.0	556	8.90	18.5	--	11.8	--
23...	1007	81700	81700	--	1.00	146	555	8.80	19.5	--	11.6	--
23...	1010	81700	81700	--	1.00	206	526	8.90	19.0	--	11.4	--
23...	1013	81700	81700	--	1.00	266	552	8.90	19.0	--	11.7	--
23...	1015	81700	81700	--	1.00	326	553	8.90	19.5	--	11.7	--
23...	1017	81700	81700	--	1.00	386	547	9.00	19.5	--	11.9	--
23...	1020	81700	81700	--	1.00	446	553	9.00	19.5	--	12.1	--
23...	1023	81700	81700	--	1.00	506	555	8.90	19.5	--	12.2	--
23...	1025	81700	81700	--	1.00	566	556	8.90	19.5	--	12.5	--
23...	1027	81700	81700	--	1.00	626	553	8.90	20.0	--	13.7	--
23...	1130	81700	17002	2760	--	--	239	8.90	21.0	6.9	13.1	42
JUL												
11...	1045	81700	17002	1330	--	--	555	8.75	30.0	3.6	12.2	51
AUG												
24...	1000	81700	17002	2920	--	--	613	8.30	23.5	13	7.7	22
24...	1015	17002	17002	2920	--	--	613	8.30	23.5	13	7.7	22

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)
OCT												
03...	K35	--	--	290	63	53	49	41	40	28	28	2.9
03...	32	--	--	280	58	49	47	40	40	25	25	3.3
NOV												
22...	28	40	54	330	69	70	68	41	40	24	24	3.3
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	28	--	--	320	64	70	65	41	38	24	23	3.3
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	8	--	--	350	86	73	71	44	42	28	27	2.7
MAR												
22...	210	--	--	210	34	51	46	25	24	15	14	5.5
22...	K16	--	--	220	41	54	47	26	25	13	13	5.5
22...	K16	K8	52	240	66	--	51	--	27	--	16	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
18...	13	--	20	270	75	66	52	34	33	16	16	4.0
MAY												
23...	K31	K25	18	280	85	--	46	--	39	--	22	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	260	68	50	46	37	36	21	21	3.3
JUL												
11...	28	--	62	250	64	48	36	40	39	24	24	4.2
AUG												
24...	47	48	39	280	74	--	50	--	38	--	25	--
24...	--	--	--	290	82	56	50	41	40	25	26	4.1

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA-LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)
OCT												
03...	2.6	--	--	--	--	224	37	45	0.3	--	--	--
03...	3.1	--	--	--	--	224	38	47	0.3	--	--	--
NOV												
22...	3.4	48	228	267	266	253	51	39	0.1	0.20	6.9	401
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	2.9	--	--	--	--	256	54	41	0.1	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	2.7	--	--	--	--	265	63	47	0.1	--	--	--
MAR												
22...	5.1	--	--	--	--	180	40	31	0.1	--	--	--
22...	5.2	--	--	--	--	180	40	30	0.1	--	--	--
22...	7.0	0	264	216	--	173	42	29	--	<0.10	7.1	318
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
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22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
18...	3.6	--	--	--	--	191	54	29	0.1	--	--	--
MAY												
23...	3.4	60	139	214	--	191	51	36	--	0.20	0.10	318
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
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23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	3.3	--	--	--	--	195	54	39	0.2	--	--	--
JUL												
11...	4.1	--	--	--	--	187	50	45	0.2	--	--	--
AUG												
24...	16	6	240	207	--	208	48	41	0.2	0.20	2.0	344
24...	2.9	--	--	--	208	--	48	43	0.2	--	--	--

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)
OCT												
03...	336	57	20	1.60	--	0.040	0.003	--	1.6	1.6	3.2	0.230
03...	335	61	22	1.60	--	0.060	0.009	--	1.6	1.7	3.3	0.230
NOV												
22...	407	17	5	3.10	3.20	0.210	0.010	0.200	0.99	1.2	4.3	0.230
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	378	17	5	3.10	--	0.180	--	--	0.92	1.1	4.2	0.240
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
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22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	413	13	5	3.60	--	<0.100	<0.001	--	--	1.3	4.9	0.210
MAR												
22...	268	89	17	3.80	--	1.20	0.008	--	2.5	3.7	7.5	0.500
22...	268	107	22	2.60	--	1.20	0.014	--	1.9	3.1	5.7	0.540
22...	297	--	--	--	2.70	1.10	--	1.10	1.2	2.3	--	0.350
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
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22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
18...	302	123	21	1.70	--	0.280	0.082	--	2.5	2.8	4.5	0.260
MAY												
23...	313	--	--	--	0.160	<0.010	--	0.020	--	2.6	--	0.110
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
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23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	316	60	16	0.150	--	0.210	0.056	--	2.3	2.5	2.6	0.160
JUL												
11...	310	128	40	<0.100	--	0.140	0.045	--	2.4	2.5	--	0.290
AUG												
24...	350	60	14	0.960	1.10	0.160	0.016	0.021	2.5	2.7	3.7	0.171
24...	335	60	14	0.960	--	0.160	--	--	2.5	2.7	3.7	0.220

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT											
03...	0.050	780	180	2	--	60	51	<0.5	<0.5	<50	<50
03...	0.040	1100	200	2	--	60	51	<0.5	<0.5	80	70
NOV											
22...	0.160	750	<10	<1	1	60	55	<0.5	<0.5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	0.180	750	120	<1	<1	--	51	<0.5	<0.5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	0.100	1100	220	1	--	60	60	<0.5	<0.5	<50	<50
MAR											
22...	0.280	1000	<50	1	--	30	10	<0.5	<0.5	<50	<50
22...	0.260	1200	80	1	--	60	41	<0.5	<0.5	<50	<50
22...	0.260	--	20	--	1	--	48	--	<0.5	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	-	--	--	--	--	--	--	--	--	--
APR											
18...	0.030	1100	90	3	--	60	42	<0.5	<0.5	<50	<50
MAY											
23...	0.030	--	<10	--	1	--	51	--	<0.5	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	0.030	540	100	2	--	60	50	<0.5	<0.5	<50	<50
JUL											
11...	0.080	560	70	3	--	70	64	<0.5	<0.5	<50	<50
AUG											
24...	0.080	--	10	--	2	--	61	--	<0.5	--	--
24...	0.080	430	60	2	--	70	69	<0.5	<0.5	50	--

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
OCT											
03...	<3	<3	<5	<5	<5	<5	<5	<5	1100	<50	<5
03...	<3	<3	<5	<5	<5	<5	<5	<5	1200	<50	<5
NOV											
22...	<3	<1	7	2	<5	<3	10	3	610	<7	5
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	<3	<3	7	7	<5	<5	10	5	610	<50	5
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	<3	<3	<5	<5	<5	<5	<5	<5	<50	340	<5
MAR											
22...	<3	<3	<5	<5	<5	<5	<5	<5	1700	61	12
22...	<3	<3	7	<5	<5	<5	18	<5	1900	<50	10
22...	--	<1	--	<1	--	<3	--	6	--	38	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
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22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
18...	<3	<3	7	5	<5	<5	10	6	1600	<50	<5
MAY											
23...	--	<1	--	<1	--	<3	--	4	--	6	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	<3	<3	<5	<5	<5	<5	<5	<5	680	<50	<5
JUL											
11...	<3	<3	<5	5	<5	<5	<5	<5	760	<50	11
AUG											
24...	--	<1	--	<1	--	<3	--	6	--	17	--
24...	<3	<3	<5	<5	<5	<5	8	<5	630	<50	5

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)
OCT											
03...	<5	200	<5	<0.05	--	<5	<5	--	<3	<3.0	80
03...	<5	170	<5	--	--	<5	<5	--	<3	<3.0	80
NOV											
22...	<5	100	4	--	<0.1	5	3	<1	<3	<1.0	100
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	<5	100	18	--	--	5	6	--	<3	<3.0	100
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	<5	13	33	--	--	<5	<5	--	<3	<3.0	120
MAR											
22...	<5	150	13	<0.05	--	<5	<5	--	<3	<3.0	80
22...	<5	180	13	--	--	7	<5	--	<3	<3.0	80
22...	<5	--	15	--	<0.1	--	4	<1	--	<1.0	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
18...	<5	170	<5	--	--	<5	<5	--	<3	<3.0	100
MAY											
23...	1	--	2	--	<0.1	--	3	<1	--	<1.0	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	<5	210	<5	<0.05	--	<5	<5	--	<3	<3.0	100
JUL											
11...	<5	300	<5	--	--	<5	<5	--	<3	<3.0	100
AUG											
24...	2	--	2	--	<0.1	--	2	<1	--	<1.0	--
24...	<5	180	<5	--	--	<10	<10	--	<3	<3.0	110

05446500 ROCK RIVER NEAR JOSLIN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT											
03...	75	5	<5	<50	<50	<0.005	4	<1	--	--	--
03...	81	<5	<5	<50	<50	<0.005	4	<1	--	--	--
NOV											
22...	94	<5	<6	120	<14	<0.005	<5	1	23	243	89
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	92	<5	<5	120	<100	<0.005	<5	1	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	120	<5	<5	<50	<50	<0.005	<5	1	--	--	--
MAR											
22...	76	<5	<5	<50	<50	<0.005	9	<1	--	--	--
22...	74	<5	<5	<50	<50	<0.005	9	1	--	--	--
22...	89	--	<6	--	12	--	--	--	131	3360	90
22...	--	--	--	--	--	--	--	--	823	0.0	77
22...	--	--	--	--	--	--	--	--	99	0.0	100
22...	--	--	--	--	--	--	--	--	98	0.0	92
22...	--	--	--	--	--	--	--	--	100	0.0	92
22...	--	--	--	--	--	--	--	--	99	0.0	96
22...	--	--	--	--	--	--	--	--	102	0.0	96
22...	--	--	--	--	--	--	--	--	98	0.0	90
22...	--	--	--	--	--	--	--	--	100	0.0	95
22...	--	--	--	--	--	--	--	--	104	0.0	94
22...	--	--	--	--	--	--	--	--	93	0.0	99
APR											
18...	94	<5	<5	<100	<100	<0.005	<5	2	--	--	--
MAY											
23...	95	--	<6	--	16	--	--	--	57	434	98
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
23...	98	<5	<5	<50	<50	<0.005	5	<1	--	--	--
JUL											
11...	98	<5	<5	<50	<50	0.005	<5	<1	--	--	--
AUG											
24...	110	--	6	--	20	<0.005	<5	<1	40	315	98
24...	110	<5	<3	<100	<100	<0.005	<5	<1	--	--	--

05447100 GREEN RIVER NEAR DEER GROVE, IL

LOCATION.--Lat 41°35'38", long 89°41'22", in SE1/4NE1/4 sec.33, T.19 N., R.7 E., Whiteside County, Hydrologic Unit 07090007, at bridge on State Highway 88, 1.1 mi south of Deer Grove, 1.4 mi upstream from Winnebago Ditch, 2.5 mi downstream from Red Oak Ditch, and at mile 48.0.

DRAINAGE AREA.--322 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1959, 1961-62, 1964, 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site PB 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
OCT											
19...	0930	17002	17002	21	636	8.10	7.5	2.4	11.2	13	K120
NOV											
23...	0800	17002	17002	33	709	7.60	2.0	4.2	13.1	<1	K30
JAN											
11...	0830	17002	17002	35	625	6.80	0.0	15	10.2	14	K70
FEB											
22...	1200	17002	17002	33	685	8.10	0.0	3.7	12.1	5	<10
MAR											
21...	0900	17002	17002	103	690	8.10	0.0	2.7	13.4	10	K13
MAY											
30...	1230	17002	17002	40	665	8.10	26.0	1.5	8.6	9	K10
JUN											
26...	1400	17002	17002	88	673	8.00	29.0	2.5	8.2	10	K83

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
OCT										
19...	370	370	87	84	39	38	5.9	5.8	1.7	1.7
NOV										
23...	390	390	93	92	39	39	8.3	8.6	1.3	1.3
JAN										
11...	340	340	84	80	34	33	10	11	3.1	3.1
FEB										
22...	410	410	98	96	42	41	8.9	9.0	1.3	1.3
MAR										
21...	360	360	88	86	35	35	7.6	7.7	1.3	1.3
MAY										
30...	270	270	84	69	37	23	6.8	--	1.5	6.7
JUN										
26...	370	--	83	--	39	40	6.7	7.4	1.0	0.30

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05447100 GREEN RIVER NEAR DEER GROVE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT 19...	5	5	<0.100	0.020	<0.001	0.040	0.020	740	160	50
NOV 23...	3	3	0.600	0.040	<0.001	0.030	0.020	<50	<50	50
JAN 11...	20	6	1.50	0.180	<0.001	0.100	0.030	420	50	70
FEB 22...	3	1	0.300	0.040	<0.001	0.010	0.010	100	70	50
MAR 21...	11	7	4.20	0.050	<0.001	0.050	0.020	190	70	30
MAY 30...	17	2	0.200	0.060	0.005	0.080	0.050	570	--	60
JUN 26...	22	7	0.400	0.050	0.004	0.090	0.030	470	--	80

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT 19...	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV 23...	50	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN 11...	59	<0.5	<0.5	<50	<50	<3	<3	7	<5	<5
FEB 22...	52	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR 21...	23	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY 30...	28	<0.5	<0.5	<50	--	<3	<3	7	<5	<5
JUN 26...	--	<0.5	<0.5	<50	<50	<3	<3	<5	--	<5

05447100 GREEN RIVER NEAR DEER GROVE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 19...	<5	<5	<5	340	76	<5	<5	62	41	--
NOV 23...	<5	<5	<5	340	<50	<5	<5	76	66	--
JAN 11...	<5	<5	<5	1200	210	<5	<5	83	56	<0.05
FEB 22...	<5	<5	<5	470	52	<5	<5	77	68	--
MAR 21...	<5	<5	<5	400	<50	<5	<5	87	56	--
MAY 30...	<5	<5	<5	500	490	<5	<5	65	62	--
JUN 26...	<5	<5	--	630	110	8	<5	72	58	--

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 19...	<5	<5	<3	<5.0	150	140	<5	<5	<50	<50
NOV 23...	<5	<5	<3	<3.0	150	150	<5	<5	<100	<100
JAN 11...	<5	<5	<5	<3.0	130	130	<5	<5	<50	<50
FEB 22...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
MAR 21...	<5	<5	<5	<3.0	130	130	<5	<5	<50	<50
MAY 30...	7	7	<3	<3.0	140	--	<5	<5	<50	<50
JUN 26...	<5	<5	<3	<3.0	150	--	<5	<5	<50	<50

ROCK RIVER BASIN

05447500 GREEN RIVER NEAR GENESEO, IL

LOCATION.--Lat 41°29'20", long 90°09'30", in NE1/4SW1/4 sec.4, T.17 N., R.3 E., Henry County, Hydrologic Unit 07090007, on right bank at upstream side of bridge on State Highway 82, 1.4 mi upstream from Geneseo Creek, 2.4 mi north of Geneseo, and at mile 14.9.

DRAINAGE AREA.--1,003 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1936 to current year.

REVISED RECORDS.--WSP 875: 1938. WSP 1508: 1937, 1939-41(M), 1946(P), 1947-49. WDR IL-74-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 580.66 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1939, nonrecording gage at same site at datum 30.00 ft lower. Oct. 1, 1939, to Apr. 3, 1940, nonrecording gage at present site and datum. U.S. Army Corps of Engineers telemeter at station.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--53 years, 613 ft^3/s, 8.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,100 ft^3/s, June 22, 1974, gage height, 16.75 ft; maximum gage height, 18.59 ft, Jan. 23, 1969 (backwater from ice); minimum daily discharge, 22 ft^3/s, Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 7	0100	*3,380	*8.96	No other peak greater than base discharge.			

Minimum discharge, 48 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	63	139	e120	126	e88	279	180	186	138	72	1830
2	65	63	139	e120	123	e86	267	186	929	136	80	1260
3	63	67	139	e115	95	e84	262	188	917	140	69	588
4	59	72	139	e110	129	e200	257	180	666	128	73	363
5	57	79	139	e105	e125	e1000	249	181	548	118	83	272
6	55	82	137	e110	e120	e760	240	176	420	109	75	1130
7	55	75	137	e125	e115	e500	236	168	360	105	76	2420
8	55	73	137	e120	e110	e440	237	161	317	100	72	1970
9	55	73	128	e110	e105	e400	239	170	304	97	67	1350
10	55	82	126	e105	e105	e380	223	172	279	94	64	1050
11	53	84	126	e110	e110	e520	210	155	258	91	61	769
12	51	86	126	e120	e120	628	205	142	355	104	61	619
13	50	95	145	e140	e135	589	198	138	665	95	61	548
14	50	95	162	e145	e135	438	189	134	455	86	60	534
15	51	95	e150	e140	e130	390	186	132	345	80	69	501
16	51	99	e130	e135	e120	360	183	128	300	79	81	464
17	68	121	e120	e130	e115	332	185	123	274	75	79	415
18	63	126	e115	e125	e115	327	190	122	252	70	67	371
19	66	126	e110	e125	e110	310	194	125	234	82	61	334
20	64	123	e110	e120	e105	300	186	129	220	107	58	309
21	66	119	e140	e110	e115	279	172	125	205	107	57	287
22	65	113	e150	e130	e100	269	176	119	196	132	54	271
23	78	108	e140	138	e95	255	208	116	187	98	54	256
24	82	105	e120	152	e90	247	213	114	191	84	55	241
25	81	104	e110	136	e95	242	182	115	170	76	59	235
26	71	104	e100	130	e100	243	169	121	162	74	66	227
27	67	122	e110	112	e95	232	183	118	160	72	73	215
28	64	132	e115	113	e90	250	196	113	176	69	74	208
29	64	139	e120	116	---	297	190	107	153	64	70	201
30	61	139	e110	121	---	311	186	105	142	64	64	195
31	61	---	e100	124	---	298	---	104	---	68	62	---
TOTAL	1910	2964	3969	3812	3128	11055	6290	4347	10026	2942	2077	19433
MEAN	61.6	98.8	128	123	112	357	210	140	334	94.9	67.0	648
MAX	82	139	162	152	135	1000	279	188	929	140	83	2420
MIN	50	63	100	105	90	84	169	104	142	64	54	195
CFSM	.06	.10	.13	.12	.11	.36	.21	.14	.33	.09	.07	.65
IN.	.07	.11	.15	.14	.12	.41	.23	.16	.37	.11	.08	.72

CAL YR 1988 TOTAL 190403 MEAN 520 MAX 5920 MIN 38 CFSM .52 IN. 7.06
WTR YR 1989 TOTAL 71953 MEAN 197 MAX 2420 MIN 50 CFSM .20 IN. 2.67

e Estimated

05447500 GREEN RIVER NEAR GENESEO, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)
OCT 19...	1100	17002	17002	66	648	7.90	10.0	1.7	10.7	10	--
NOV 22...	0800	17002	17002	91	752	7.50	1.0	4.6	13.2	14	--
JAN 11...	1000	17002	17002	110	716	7.30	0.0	8.3	15.0	12	--
FEB 22...	0900	17002	17002	100	734	7.60	0.0	3.6	12.1	7	--
MAR 22...	1130	17002	17002	271	730	8.10	4.0	3.1	12.3	10	--
MAY 30...	1500	17002	17002	102	690	8.40	27.0	2.7	12.8	16	--
JUN 27...	0930	17002	17002	157	681	7.90	25.0	9.6	8.8	21	--
JUL 18...	1130	17002	17002	69	678	7.90	24.5	4.0	9.7	17	3.0
SEP 15...	0800	17002	17002	506	847	7.60	14.5	7.8	11.0	13	2.0

DATE	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
OCT 19...	K240	360	120	85	82	38	37	7.6	7.4	2.0	1.9
NOV 22...	K150	400	150	100	97	40	39	11	11	1.9	1.8
JAN 11...	220	370	110	91	90	35	35	10	10	2.3	2.2
FEB 22...	<10	400	140	100	97	39	38	11	11	1.4	1.5
MAR 22...	K200	390	150	98	96	37	37	9.3	9.5	1.5	1.6
MAY 30...	K30	370	140	86	82	42	40	9.5	9.3	1.8	1.4
JUN 27...	380	360	120	82	79	40	39	8.6	8.6	1.6	0.92
JUL 18...	--	380	140	89	83	44	43	14	10	<0.3	<0.30
SEP 15...	1200	440	140	110	110	40	40	10	10	2.3	1.3

05447500 GREEN RIVER NEAR GENESEO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT 19...	240	88	22	0.4	383	8	7	0.400	0.060	<0.001	0.44
NOV 22...	256	120	26	0.2	451	2	2	0.900	0.060	<0.001	0.34
JAN 11...	264	100	27	0.2	425	3	1	1.60	0.140	<0.001	0.66
FEB 22...	260	100	24	0.2	432	4	1	0.800	0.060	<0.001	0.24
MAR 22...	244	120	27	0.2	439	9	3	3.10	0.100	0.002	0.40
MAY 30...	232	100	22	0.2	396	32	20	<0.100	0.040	0.006	0.96
JUN 27...	240	100	23	0.2	397	53	15	0.200	0.060	0.003	1.2
JUL 18...	240	97	25	0.2	403	16	6	<0.100	<0.100	<0.004	--
SEP 15...	296	60	27	0.2	426	92	9	7.50	<0.100	<0.001	--

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)
OCT 19...	0.50	0.90	0.060	0.030	220	150	1	60	70	<0.5	<0.5
NOV 22...	0.40	1.3	0.050	0.030	<50	<50	1	70	71	<0.5	<0.5
JAN 11...	0.80	2.4	0.080	0.030	170	70	<1	70	67	<0.5	<0.5
FEB 22...	0.30	1.1	0.030	0.010	130	80	<1	70	66	<0.5	<0.5
MAR 22...	0.50	3.6	0.070	0.020	170	80	<1	30	29	<0.5	<0.5
MAY 30...	1.0	--	0.130	0.040	550	420	2	70	50	<0.5	<0.5
JUN 27...	1.3	1.5	0.150	0.070	740	70	2	100	69	<0.5	<0.5
JUL 18...	0.50	--	0.070	0.030	1200	190	3	300	93	<0.5	<0.5
SEP 15...	1.3	8.8	0.140	0.080	980	60	3	100	120	<0.5	<0.5

05447500 GREEN RIVER NEAR GENESEO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT 19...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
NOV 22...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JAN 11...	<50	<50	<3	<3	8	6	<5	<5	<5	<5
FEB 22...	<50	<50	<3	<3	<5	<5	5	<5	<5	<5
MAR 22...	<50	<50	<3	<3	6	<5	<5	<5	<5	<5
MAY 30...	<50	<50	<3	<3	6	6	<5	<5	<5	<5
JUN 27...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5
JUL 18...	<50	<50	<3	<3	9	<5	<5	<5	130	<5
SEP 15...	<50	50	<3	<3	<5	<5	<5	<5	<5	<5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)
OCT 19...	280	80	<5	<5	150	120	<0.05	6	--	<3
NOV 22...	320	<50	33	<5	110	87	0.07	9	11	<3
JAN 11...	500	<50	<5	<5	190	170	<0.05	6	9	<5
FEB 22...	390	<50	<5	<5	260	240	<0.05	<5	<5	<5
MAR 22...	510	<50	<5	<5	140	88	<0.05	<5	<5	6
MAY 30...	500	73	<5	<5	110	32	<0.05	<5	<5	<3
JUN 27...	1000	<50	<5	<5	180	80	<0.05	<5	5	<3
JUL 18...	2000	300	<5	<5	260	170	<0.05	29	<5	<3
SEP 15...	1700	<50	<5	<5	100	17	<0.05	<5	<5	<3

05447500 GREEN RIVER NEAR GENESEO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT										
19...	<3.0	160	150	<5	<5	<50	<50	<0.005	3	<1
NOV										
22...	<3.0	160	160	<5	<5	<50	<50	<0.005	3	1
JAN										
11...	<5.0	150	150	<5	<5	<50	<50	<0.005	5	<1
FEB										
22...	<3.0	160	160	<5	<5	<50	<50	<0.005	<2	<1
MAR										
22...	<5.0	150	150	<5	<5	<50	<50	<0.005	<2	<1
MAY										
30...	<3.0	160	160	<5	<5	<50	<50	<0.005	2	<1
JUN										
27...	<3.0	170	160	<5	<5	<50	<50	<0.005	5	--
JUL										
18...	<5.0	240	180	<5	<5	370	<50	<0.005	<5	--
SEP										
15...	<3.0	210	210	<5	<5	<50	<50	<0.005	<5	--

05448000 MILL CREEK AT MILAN, IL

LOCATION.--Lat 41°26'32", long 90°33'21", in NW1/4NE1/4 sec.25, T.17 N., R.2 W., Rock Island County, Hydrologic Unit 07090005, on right bank at upstream side of Knoxville Road Bridge, 1 mi southeast of Milan and at mile 1.2.

DRAINAGE AREA.--62.4 mi^2.

PERIOD OF RECORD.--October 1939 to September 1940 (fragmentary), July 1941 to September 1986. Seven-month period (March to September), water year 1987 to current year.

REVISED RECORDS.--WSP 1308: 1940(M), 1943(M). WDR IL-72-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 565.23 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 5, 1940, nonrecording gage at same site and datum. Prior to Oct. 1, 1987, at datum 1.00 ft higher.

REMARKS.--Records fair except those for estimated daily discharges, which are poor. Occasional pumpage of about 1 ft^3/s from quarry into creek above gage.

AVERAGE DISCHARGE.--45 years (water years 1942-86), 43.9 ft^3/s, 9.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,300 ft^3/s, Apr. 22, 1973, gage height, 12.65 ft, present datum; no flow at times in 1940-41, 1953-57, 1977, 1988.

EXTREMES FOR PERIOD MARCH TO SEPTEMBER OF CURRENT YEAR.--Maximum discharge, 599 ft^3/s, July 19, gage height, 3.82 ft; maximum gage height, 3.93 ft (backwater from ice), Mar. 4; minimum discharge, 0.29 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e1.5	8.6	12	4.4	1.2	1.6	180
2	---	---	---	---	---	e2.3	8.3	15	3.4	1.1	1.5	33
3	---	---	---	---	---	e3.0	8.3	12	8.6	1.1	1.3	9.8
4	---	---	---	---	---	e85	7.7	11	17	1.1	1.2	4.6
5	---	---	---	---	---	e68	6.8	12	6.8	1.0	1.5	4.3
6	---	---	---	---	---	e40	5.8	10	3.9	1.4	1.1	55
7	---	---	---	---	---	e25	5.3	9.7	3.8	1.4	1.0	57
8	---	---	---	---	---	e15	7.8	9.3	3.0	.80	.83	24
9	---	---	---	---	---	e10	9.7	12	2.7	.82	1.4	133
10	---	---	---	---	---	e50	7.4	12	1.7	.72	2.0	57
11	---	---	---	---	---	55	7.3	9.3	1.5	1.6	.61	26
12	---	---	---	---	---	29	7.4	8.4	109	6.0	.48	16
13	---	---	---	---	---	17	6.7	8.3	43	2.1	.48	15
14	---	---	---	---	---	16	5.2	8.2	18	1.3	1.0	14
15	---	---	---	---	---	14	5.0	7.3	12	1.1	10	10
16	---	---	---	---	---	11	4.7	7.7	9.7	1.1	1.3	8.3
17	---	---	---	---	---	8.8	5.1	8.3	7.2	1.0	.73	7.0
18	---	---	---	---	---	9.1	6.2	7.9	5.8	1.4	.41	5.5
19	---	---	---	---	---	7.3	6.6	8.3	5.4	127	.40	4.6
20	---	---	---	---	---	7.3	5.8	7.7	4.8	15	.65	4.1
21	---	---	---	---	---	7.3	5.1	6.1	3.5	9.2	.49	3.6
22	---	---	---	---	---	7.8	5.6	5.2	3.3	7.0	.40	3.4
23	---	---	---	---	---	7.6	79	4.5	2.9	4.8	1.3	3.3
24	---	---	---	---	---	6.2	43	3.4	2.6	3.9	2.3	3.1
25	---	---	---	---	---	6.4	23	6.0	2.1	5.6	1.5	4.2
26	---	---	---	---	---	6.6	20	4.1	2.0	4.5	.76	3.6
27	---	---	---	---	---	6.8	24	2.5	1.6	3.4	.61	3.4
28	---	---	---	---	---	16	15	2.0	1.8	2.4	3.3	2.5
29	---	---	---	---	---	22	14	2.4	1.4	2.0	2.1	2.6
30	---	---	---	---	---	14	13	2.1	1.3	1.9	1.5	2.6
31	---	---	---	---	---	10	---	2.8	---	1.9	11	---
TOTAL	---	---	---	---	---	585.0	377.4	237.5	294.2	214.84	54.75	700.5
MEAN	---	---	---	---	---	18.9	12.6	7.66	9.81	6.93	1.77	23.3
MAX	---	---	---	---	---	85	79	15	109	127	11	180
MIN	---	---	---	---	---	1.5	4.7	2.0	1.3	.72	.40	2.5
CFSM	---	---	---	---	---	.30	.20	.12	.16	.11	.03	.37
IN.	---	---	---	---	---	.35	.22	.14	.18	.13	.03	.42

e Estimated

05466000 EDWARDS RIVER NEAR ORION, IL

LOCATION.--Lat 41°16'20", long 90°22'40", in NE1/4SE1/4 sec.21, T.15 N., R.1 E., Henry County, Hydrologic Unit 07080104, on left bank at downstream side of bridge on U.S. Highway 150, 1.5 mi north of Opheim, 5.5 mi south of Orion, and at mile 51.5.

DRAINAGE AREA.--155 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1175: 1947(P). WSP 1508: 1942. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 653.96 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Apr. 4, 1941, and Apr. 8 to Nov. 11, 1981, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--49 years, 106 ft^3/s, 9.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,910 ft^3/s, Feb. 19, 1951, gage height, 13.41 ft; maximum gage height, 15.52 ft, June 23, 1974; minimum discharge, 0.3 ft^3/s, Oct. 6, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 1924 reached a stage of 20.2 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 1	1315	2,630	11.72	Sept. 8	0215	2,730	11.87
Sept. 6	1800	*3,010	*12.28				

Minimum daily discharge, 1.5 ft^3/s, Dec. 8, Feb. 24-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	3.5	6.7	e3.2	6.1	e1.7	6.2	20	10	6.5	4.9	1810
2	3.8	3.1	8.1	e2.6	4.5	e1.9	6.0	22	14	6.3	4.5	419
3	2.8	5.3	8.5	e2.5	e3.4	e4.5	7.0	19	157	5.9	4.4	145
4	2.3	4.9	3.0	e3.3	e2.5	e15	7.2	17	248	5.5	6.4	67
5	1.9	4.9	e2.0	e3.7	e2.2	e60	6.6	19	56	5.3	7.4	38
6	2.1	8.2	e1.8	e4.4	e2.1	e200	5.7	15	24	5.0	4.3	1380
7	1.9	4.1	e1.6	e5.2	e2.0	e180	5.2	13	16	4.7	3.1	1190
8	2.0	3.0	e1.5	e6.4	e1.9	e170	8.1	12	12	4.6	2.8	1630
9	2.2	3.2	e1.7	e5.6	e2.1	e100	8.4	21	160	4.6	2.8	1060
10	1.9	5.1	e1.9	e5.2	e1.9	e150	8.8	19	24	4.3	2.4	632
11	1.9	4.7	e2.2	e4.6	e2.6	e250	5.0	12	15	4.9	2.1	447
12	2.0	7.8	e2.5	e4.4	e2.9	e150	4.0	11	276	20	2.0	336
13	2.2	9.2	e2.2	e3.8	e3.2	e90	3.3	9.4	896	5.9	2.1	305
14	2.3	7.1	e2.0	e3.6	e3.6	e50	3.4	8.6	189	4.7	3.4	299
15	2.5	6.1	e1.9	e3.3	e3.0	e30	3.4	8.2	84	4.6	3.8	244
16	2.4	11	e1.7	e3.0	e2.7	e21	3.8	7.9	54	4.2	3.2	204
17	2.7	9.4	e1.8	e2.9	e2.5	e17	6.6	7.4	39	3.4	2.8	169
18	2.4	6.7	e1.8	e2.7	e2.3	e15	4.4	8.0	28	3.8	2.7	140
19	2.2	5.4	e1.9	e2.6	e2.1	e13	4.6	8.6	23	42	2.7	119
20	3.3	4.3	e2.0	e2.5	e1.9	e12	5.1	9.1	19	11	2.7	101
21	3.9	3.7	e2 1	e2.6	e1.8	e11	4.2	9.6	15	18	2.4	85
22	4.0	3.3	e2.3	e2.7	e1.7	e10	4.7	7.3	13	26	3.8	78
23	8.1	3.0	e2.5	e2.8	e1.6	e9.5	84	6.8	20	10	6.2	62
24	8.1	2.5	e2.9	e2.9	e1.5	e9.0	67	8.9	65	8.7	6.5	51
25	9.2	3.0	e3.2	e3.0	e1.5	e8.8	31	9.8	13	7.8	6.6	51
26	5.3	8.2	e4.1	e3.3	e1.5	e8.5	26	12	10	7.7	11	47
27	3.2	12	e5.2	e3.5	e1.5	8.3	145	8.3	29	7.6	14	39
28	2.2	15	e7.2	4.8	e1.6	11	46	5.4	32	6.5	12	38
29	2.5	7.0	e6.0	9.4	---	10	32	5.2	9.6	5.9	7.5	37
30	3.1	4.1	e4.5	9.7	---	7.8	24	5.0	7.0	5.5	5.6	35
31	3.0	---	e3.8	8.4	---	6.6	---	5.3	---	5.0	265	---
TOTAL	102.3	178.8	100.6	128.6	68.2	1631.6	576.7	350.8	2557.6	265.9	411.1	11258
MEAN	3.30	5.96	3.25	4.15	2.44	52.6	19.2	11.3	85.3	8.58	13.3	375
MAX	9.2	15	8.5	9.7	6.1	250	145	22	896	42	265	1810
MIN	1.9	2.5	1.5	2.5	1.5	1.7	3.3	5.0	7.0	3.4	2.0	35
CFSM	.02	.04	.02	.03	.02	.34	.12	.07	.55	.06	.09	2.42
IN.	.02	.04	.02	.03	.02	.39	.14	.08	.61	.06	.10	2.70

CAL YR 1988 TOTAL 23963.6 MEAN 65.5 MAX 2120 MIN 1.5 CFSM .42 IN. 5.75
WTR YR 1989 TOTAL 17630.2 MEAN 48.3 MAX 1810 MIN 1.5 CFSM .31 IN. 4.23

e Estimated

05466500 EDWARDS RIVER NEAR NEW BOSTON, IL

LOCATION.--Lat 41°11'15", long 90°58'05", at quarter corner between secs.21 and 28, T.14 N., R.5 W., Mercer County, Hydrologic Unit 07080104, on left bank at downstream side of bridge on State Highway 17, 1.5 mi northeast of New Boston, and at mile 4.6.

DRAINAGE AREA.--445 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1508: 1935-36(M), 1938-40(M), 1941, 1943. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 529.92 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 1, 1941, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--55 years, 282 ft^3/s, 8.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s, Apr. 22, 1973, gage height, 23.33 ft; minimum, 1.2 ft^3/s, Oct. 19, 20, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 10	0600	*3,980	*20.10	No other peak greater than base discharge.			

Minimum discharge, 1.2 ft^3/s, Oct. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	7.9	21	e10	40	e8.0	29	62	16	35	15	524
2	11	8.3	29	e9.5	29	e7.0	27	60	15	28	12	1470
3	9.5	10	20	e9.0	26	10	26	58	25	25	12	670
4	7.9	7.6	15	e12	e21	77	26	55	62	23	12	238
5	8.5	8.7	e12	e11	e18	253	25	51	200	22	11	145
6	9.1	11	e10	e15	e15	238	24	46	107	21	10	781
7	8.9	13	e9.5	e20	e13	216	23	44	51	19	9.9	1480
8	5.8	18	e9.0	e24	e11	139	26	41	35	17	10	1740
9	4.0	20	e8.5	e32	e9.5	119	27	39	29	16	8.4	1960
10	3.2	21	e8.0	e35	e8.5	139	28	41	43	15	7.9	2030
11	2.7	31	e10	e31	e9.5	227	28	48	62	14	7.6	1150
12	2.5	27	e12	e25	e11	274	26	41	105	14	7.1	572
13	3.1	30	e10	e20	e12	170	24	32	295	13	6.7	974
14	4.9	42	e9.0	e17	e9.5	106	21	30	812	39	6.5	395
15	5.9	36	e7.8	e15	e8.5	83	20	27	244	23	6.9	365
16	7.1	25	e7.2	e13	e8.0	73	19	26	134	19	6.2	311
17	10	21	e7.5	e12	e7.6	64	20	24	97	18	6.1	275
18	1.6	e19	e8.0	e11	e7.4	56	20	25	79	17	5.8	241
19	1.3	e17	e8.5	e10	e7.2	61	21	26	66	27	6.5	208
20	1.6	e16	10	e9.5	e7.0	e48	23	25	55	43	6.8	186
21	1.9	e15	9.6	e11	e6.5	e46	21	25	49	45	6.7	168
22	2.1	e14	9.9	e12	e6.2	e43	20	23	48	31	7.4	149
23	5.2	e13	10	e13	e6.0	e40	42	22	45	31	8.6	135
24	3.4	e13	11	e14	e6.5	40	161	21	40	34	8.4	122
25	2.3	e12	12	e15	e7.0	37	154	18	46	23	7.7	107
26	2.5	18	20	e17	e7.6	35	90	19	59	20	9.1	103
27	11	20	27	20	e7.4	34	69	20	40	17	9.1	98
28	5.6	21	43	24	e7.0	35	164	20	33	15	16	88
29	6.2	27	31	27	---	38	109	21	87	15	22	82
30	6.6	27	e21	34	---	38	78	18	53	17	20	81
31	7.6	---	e15	43	---	35	---	16	---	16	85	---
TOTAL	169.5	569.5	441.5	571.0	332.9	2789.0	1391	1024	3032	712	374.4	16848
MEAN	5.47	19.0	14.2	18.4	11.9	90.0	46.4	33.0	101	23.0	12.1	562
MAX	11	42	43	43	40	274	164	62	812	45	85	2030
MIN	1.3	7.6	7.2	9.0	6.0	7.0	19	16	15	13	5.8	81
CFSM	.01	.04	.03	.04	.03	.20	.10	.07	.23	.05	.03	1.26
IN.	.01	.05	.04	.05	.03	.23	.12	.09	.25	.06	.03	1.41

CAL YR 1988 TOTAL 62297.6 MEAN 170 MAX 4250 MIN 1.3 CFSM .38 IN. 5.21
WTR YR 1989 TOTAL 28254.8 MEAN 77.4 MAX 2030 MIN 1.3 CFSM .17 IN. 2.36

e Estimated

05466500 EDWARDS RIVER NEAR NEW BOSTON, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical date for water years 1959, 1971-77 are published in Water-Resources Investigations 78-23 and 79-24 as site LF 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
24...	1300	17002	17002	3.3	566	7.00	7.0	13	12.6	14	K100
NOV											
28...	1500	17002	17002	24	622	7.20	2.5	3.7	15.0	13	240
JAN											
03...	1300	17002	17002	9.0	600	7.20	1.0	4.0	15.1	9	K5
FEB											
07...	1400	17002	17002	13	602	7.40	0.0	2.0	13.2	13	K5
MAR											
21...	1400	17002	17002	46	652	--	6.0	--	--	14	<2
22...	0830	81700	80020	43	567	7.30	2.5	--	12.4	--	--
APR											
25...	1300	17002	17002	140	613	7.80	21.0	5.3	8.4	39	K130
JUN											
20...	1400	17002	17002	50	660	8.00	27.5	2.0	7.5	19	K450
AUG											
02...	1330	17002	17002	12	537	8.30	28.0	4.8	13.5	26	K180
SEP											
21...	1430	17002	17002	238	686	7.70	20.0	4.5	7.9	13	960

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
OCT											
24...	300	300	71	69	31	30	11	10	2.0	1.9	5
NOV											
28...	320	320	75	74	32	32	21	21	3.4	3.4	5
JAN											
03...	300	300	70	70	30	30	20	20	3.2	3.2	6
FEB											
07...	280	280	65	68	26	27	21	22	2.8	2.9	2
MAR											
21...	300	300	74	75	28	28	21	21	2.5	3.0	12
22...	--	--	--	--	--	--	--	--	--	--	--
APR											
25...	250	250	63	59	25	24	27	27	8.5	8.3	82
JUN											
20...	310	310	82	78	30	28	18	18	2.8	3.3	41
AUG											
02...	260	260	54	55	28	29	20	20	6.9	5.8	24
SEP											
21...	350	350	87	87	33	33	16	16	1.9	--	157

05466500 EDWARDS RIVER NEAR NEW BOSTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)
OCT										
24...	4	0.470	--	<0.100	<0.001	0.100	0.030	140	<50	100
NOV										
28...	3	0.630	--	<0.100	<0.001	0.100	0.050	340	<50	90
JAN										
03...	3	0.960	--	<0.100	<0.001	0.070	0.020	80	<50	80
FEB										
07...	1	1.20	--	<0.100	<0.001	0.070	0.030	90	<50	70
MAR										
21...	2	2.40	--	0.210	--	0.080	0.040	510	180	100
22...	--	--	2.30	--	--	--	--	--	--	--
APR										
25...	8	3.40	--	1.10	0.030	0.270	0.100	1300	110	200
JUN										
20...	4	9.10	--	<0.100	<0.007	0.270	0.090	3100	200	200
AUG										
02...	9	<0.100	--	<0.100	<0.013	0.110	0.030	280	<50	100
SEP										
21...	20	11.0	--	<0.100	<0.002	0.230	0.150	2400	60	200

DATE	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
OCT										
24...	100	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
NOV										
28...	83	<0.5	<0.5	50	50	<3	<3	<5	<5	<5
JAN										
03...	80	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB										
07...	66	<0.5	<0.5	60	--	<3	<3	<5	<5	<5
MAR										
21...	89	<0.5	<0.5	60	60	<3	<3	<5	<5	<5
22...	--	--	--	--	--	--	--	--	--	--
APR										
25...	120	<0.5	<0.5	70	70	--	--	8	6	5
JUN										
20...	140	<0.5	<0.5	60	50	<3	<3	<5	<5	<5
AUG										
02...	110	<0.5	<0.5	60	--	<3	<3	<5	<5	<5
SEP										
21...	150	<0.5	<0.5	60	--	<3	<3	<5	<5	<5

05466500 EDWARDS RIVER NEAR NEW BOSTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
OCT 24...	<5	<5	<5	620	54	<5	<5	1400	1300	0.16
NOV 28...	<5	<5	<5	730	<50	<5	<5	520	460	<0.05
JAN 03...	<5	<5	<5	570	<50	<5	<5	640	610	<0.05
FEB 07...	<5	<5	<5	520	69	<5	<5	600	--	<0.05
MAR 21...	<5	<5	<5	680	87	<5	<5	240	170	<0.05
22...	--	--	--	--	--	--	--	--	--	--
APR 25...	<5	5	<5	2500	<50	<5	<5	610	140	0.06
JUN 20...	<5	<5	<5	4000	<50	<5	<5	280	32	<0.05
AUG 02...	<5	<5	<5	540	<50	<5	<5	540	380	<0.05
SEP 21...	<5	<5	<5	2900	<50	<5	<5	180	39	<0.05

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT 24...	<5	<5	<3	<3.0	130	120	8	--	<100	<100
NOV 28...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
JAN 03...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
FEB 07...	<5	<5	<3	<3.0	150	--	<5	<5	<50	<50
MAR 21...	<5	<5	<3	<3.0	180	180	<5	<5	<50	<50
22...	--	--	--	--	--	--	--	--	--	--
APR 25...	11	11	<3	<3.0	160	160	7	<5	<50	<50
JUN 20...	<5	<5	<3	<3.0	190	190	5	<5	<50	<50
AUG 02...	<5	<5	<3	<3.0	150	--	<5	<5	<100	<100
SEP 21...	<5	<5	<3	<3.0	210	210	6	<5	<100	<100

05467000 POPE CREEK NEAR KEITHSBURG, IL

LOCATION.--Lat 41°07'42", long 90°55'10", in SE1/4SE1/4 sec.11, T.13 N., R.5 W., Mercer County, Hydrologic Unit 07080104, on downstream side of county road bridge, 1.8 mi northeast of Keithsburg, and at mile 3.0.

DRAINAGE AREA.--174 mi^2.

PERIOD OF RECORD.--October 1934 to September 1986. Seven-month period (March to September), water year 1987 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1508: 1935-37(M), 1938, 1939-43(M). WDR IL-81-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 524.07 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Aug. 1, 1975, nonrecording gage and crest-stage gage at site 1,000 ft upstream at same datum. Aug. 1, 1975, to Aug. 24, 1981, water-stage recorder at site 500 ft downstream at same datum.

REMARKS.--Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--52 years (water years 1935-86), 111 ft^3/s, 8.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,900 ft^3/s, Apr. 22, 1973, gage height, 27.88 ft, from graph based on gage readings; maximum gage height, 28.36 ft, July 7, 1982; minimum discharge, 0.57 ft^3/s, Aug. 15-18, 1988.

EXTREMES FOR PERIOD MARCH TO SEPTEMBER OF CURRENT YEAR.--Maximum discharge, 3,400 ft^3/s, Sept. 6, gage height, 26.78 ft; minimum discharge, 0.60 ft^3/s, for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e15	6.9	16	3.2	1.8	.93	e60
2	---	---	---	---	---	e28	6.5	17	9.4	1.7	1.1	e230
3	---	---	---	---	---	e35	6.4	16	57	1.4	.93	e150
4	---	---	---	---	---	37	6.6	14	43	1.4	.70	e60
5	---	---	---	---	---	85	6.1	13	23	1.9	.63	e200
6	---	---	---	---	---	44	5.8	12	19	2.0	.53	1460
7	---	---	---	---	---	39	6.1	10	10	1.6	.61	1090
8	---	---	---	---	---	36	8.5	8.7	6.8	1.5	1.0	617
9	---	---	---	---	---	30	10	16	6.0	1.4	1.4	905
10	---	---	---	---	---	41	8.8	11	38	1.3	1.6	478
11	---	---	---	---	---	69	8.6	9.0	31	1.2	1.6	250
12	---	---	---	---	---	64	7.8	8.0	131	1.2	1.7	171
13	---	---	---	---	---	31	7.6	7.7	97	1.2	1.7	136
14	---	---	---	---	---	17	6.9	6.8	69	1.1	2.2	121
15	---	---	---	---	---	15	6.3	6.7	41	1.1	1.7	110
16	---	---	---	---	---	16	7.1	5.0	26	.85	1.6	94
17	---	---	---	---	---	13	6.3	4.0	19	.67	1.7	82
18	---	---	---	---	---	14	8.1	5.2	14	1.2	1.8	72
19	---	---	---	---	---	11	8.1	5.8	11	2.0	1.7	63
20	---	---	---	---	---	11	6.8	4.8	8.4	1.2	1.6	56
21	---	---	---	---	---	9.2	6.4	5.6	5.6	1.7	2.1	51
22	---	---	---	---	---	9.9	7.8	5.2	4.8	1.3	1.9	47
23	---	---	---	---	---	8.9	20	4.1	4.2	.76	5.8	46
24	---	---	---	---	---	8.5	52	4.1	3.6	.73	2.3	41
25	---	---	---	---	---	8.5	48	3.6	3.0	.69	1.6	38
26	---	---	---	---	---	8.0	29	3.4	5.3	1.1	4.6	37
27	---	---	---	---	---	7.7	24	3.1	7.1	1.3	15	35
28	---	---	---	---	---	11	24	3.0	3.8	.81	4.6	32
29	---	---	---	---	---	11	22	3.1	2.5	.73	4.3	30
30	---	---	---	---	---	9.1	18	3.1	1.9	.61	2.4	29
31	---	---	---	---	---	7.8	---	3.1	---	.92	14	---
TOTAL	---	---	---	---	---	750.6	396.5	238.1	704.6	38.37	85.33	6791
MEAN	---	---	---	---	---	24.2	13.2	7.68	23.5	1.24	2.75	226
MAX	---	---	---	---	---	85	52	17	131	2.0	15	1460
MIN	---	---	---	---	---	7.7	5.8	3.0	1.9	.61	.53	29
CFSM	---	---	---	---	---	.14	.08	.04	.13	.01	.02	1.30
IN.	---	---	---	---	---	.16	.08	.05	.15	.01	.02	1.45

e Estimated

05469000 HENDERSON CREEK NEAR OQUAWKA, IL

LOCATION.--Lat 41°00'05", long 90°51'15", in NE1/4SW1/4 sec.28, T.12 N., R.4 W., Henderson County, Hydrologic Unit 07080104, on left bank at downstream side of bridge on State Highway 94, 1 mi south of Bald Bluff, 6.5 mi northeast of Oquawka, and at mile 20.8.

DRAINAGE AREA.--432 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1934 to current year. Prior to October 1938, published as Henderson River. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1208: 1939, 1942-43, 1948. WSP 1308: 1935-38(M), 1941(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 541.21 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Mar. 4, 1941, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--55 years, 281 ft^3/s, 8.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft^3/s, July 8, 1982, gage height, 31.05 ft; minimum observed, 1.7 ft^3/s, Sept. 22, 23, 1940.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
June 1	1945	*1,640	*21.81				

Minimum discharge, 7.7 ft^3/s, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	15	23	e30	e22	e17	29	35	885	19	16	397
2	33	15	e20	e24	e20	e35	28	36	1000	17	13	364
3	32	16	e17	e20	e18	58	30	39	221	16	13	107
4	18	19	e15	34	e17	239	34	32	121	15	12	51
5	14	32	e13	41	e15	458	40	29	88	14	21	34
6	13	24	e12	71	e14	239	32	25	63	14	15	270
7	12	22	e10	81	e13	153	30	22	51	13	10	982
8	11	19	e9.5	50	e12	122	36	22	43	13	8.7	612
9	11	18	e9.0	e40	e11	116	49	31	113	13	9.2	770
10	11	20	e11	e25	e12	152	45	58	108	12	8.3	416
11	9.8	27	e12	e20	e13	215	37	47	55	11	8.5	224
12	9.2	31	e13	e18	e15	158	34	32	366	11	8.2	149
13	11	32	e11	e16	e16	72	30	27	333	12	8.0	123
14	12	42	e9.5	e15	e18	51	28	23	119	12	8.3	126
15	14	32	e9.2	e14	e17	44	28	19	68	12	9.4	112
16	15	28	e8.8	e13	e16	40	27	18	53	12	8.7	89
17	14	e25	e8.4	e12	e14	36	25	18	44	11	9.6	76
18	12	e21	e8.0	e11	e12	33	24	20	39	11	9.5	62
19	15	e19	e8.5	e10	e11	32	24	23	34	17	9.1	54
20	19	e17	e9.0	e11	e10	30	26	29	30	27	9.6	48
21	15	e16	e11	e11	e9.5	28	25	29	27	23	11	44
22	14	e15	e13	e12	e9.0	26	24	20	25	20	22	41
23	19	e14	e16	e12	e9.5	25	45	19	23	38	163	38
24	24	e13	e20	e15	e11	24	164	18	21	21	248	36
25	30	e13	e24	e16	e11	24	95	22	20	19	89	33
26	21	23	35	e18	e10	23	60	31	19	17	52	31
27	18	48	47	e19	e12	22	50	26	22	16	32	30
28	17	42	60	e20	e11	26	49	23	52	14	19	29
29	16	30	70	e22	---	32	51	21	28	13	15	27
30	16	25	53	e23	---	34	45	20	22	21	17	26
31	16	---	e45	e25	---	30	---	20	---	19	33	---
TOTAL	513.0	714	630.9	749	379.0	2594	1244	834	4093	503	915.1	5401
MEAN	16.5	23.8	20.4	24.2	13.5	83.7	41.5	26.9	136	16.2	29.5	180
MAX	33	48	70	81	22	458	164	58	1000	38	248	982
MIN	9.2	13	8.0	10	9.0	17	24	18	19	11	8.0	26
CFSM	.04	.06	.05	.06	.03	.19	.10	.06	.32	.04	.07	.42
IN.	.04	.06	.05	.06	.03	.22	.11	.07	.35	.04	.08	.47

CAL YR 1988 TOTAL 35392.9 MEAN 96.7 MAX 1410 MIN 7.0 CFSM .22 IN. 3.05
WTR YR 1989 TOTAL 18570.0 MEAN 50.9 MAX 1000 MIN 8.0 CFSM .12 IN. 1.60

e Estimated

05469000 HENDERSON CREEK NEAR OQUAWKA, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site LD 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
OCT											
24...	1415	17002	17002	23	1150	7.80	6.5	13	11.2	31	500
NOV											
28...	1615	17002	17002	39	996	7.60	2.0	4.1	13.2	24	K360
JAN											
03...	1415	17002	17002	20	1300	7.60	0.0	3.6	14.3	19	K20
FEB											
07...	1530	17002	17002	13	1360	7.60	0.0	3.1	11.3	28	K130
MAR											
21...	1530	17002	17002	32	1090	--	6.5	--	--	31	<5
APR											
25...	1430	17002	17002	85	613	7.60	22.5	8.9	6.8	32	K180
JUN											
20...	1315	17002	17002	30	955	8.10	28.0	0.50	8.9	24	K300
AUG											
02...	1500	17002	17002	15	925	8.60	27.5	3.2	14.6	26	460
SEP											
21...	1630	17002	17002	39	816	8.10	21.0	4.5	9.0	17	230

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
OCT											
24...	290	54	69	68	29	29	130	130	13	13	236
NOV											
28...	280	55	70	68	27	27	110	100	11	11	227
JAN											
03...	270	--	66	--	26	--	150	--	10	--	217
FEB											
07...	320	69	77	77	31	31	140	140	14	14	252
MAR											
21...	330	83	78	78	32	32	99	100	9.5	9.0	244
APR											
25...	230	70	57	55	22	22	33	33	7.1	6.8	158
JUN											
20...	350	110	83	84	33	33	74	75	7.3	7.5	237
AUG											
02...	270	47	65	64	27	27	97	97	12	11	225
SEP											
21...	360	110	86	86	35	35	41	42	3.9	3.8	254

05469000 HENDERSON CREEK NEAR OQUAWKA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT											
24...	130	17	6	9.60	<0.100	<0.001	2.80	2.60	460	<50	60
NOV											
28...	110	22	4	8.80	--	--	3.10	2.40	700	<50	60
JAN											
03...	110	8	4	10.0	1.50	0.005	2.40	2.30	190	--	70
FEB											
07...	150	7	3	18.0	2.50	0.009	4.00	3.70	200	<50	40
MAR											
21...	130	10	5	6.50	2.60	--	2.10	2.00	630	--	70
APR											
25...	81	55	7	2.90	0.700	0.014	0.980	0.710	1600	110	100
JUN											
20...	110	20	3	7.30	<0.100	<0.009	1.00	0.910	1600	190	200
AUG											
02...	100	16	5	2.10	<0.100	<0.022	1.10	1.00	390	<50	90
SEP											
21...	77	22	4	7.40	<0.100	<0.005	0.500	0.450	530	<50	100

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT										
24...	55	<0.5	<0.5	360	370	<3	<3	<5	<5	<5
NOV										
28...	52	<0.5	<0.5	330	330	<3	<3	6	<5	<5
JAN										
03...	--	<0.5	--	270	--	<3	--	<5	--	<5
FEB										
07...	39	<0.5	<0.5	390	380	<3	<3	<5	<5	<5
MAR										
21...	71	<1.0	<2	280	--	<3	<3	<5	6	<5
APR										
25...	89	<0.5	<0.5	110	110	--	--	<5	<5	<5
JUN										
20...	150	<2.0	<1	260	250	<3	<3	<5	<5	<5
AUG										
02...	87	<0.5	<0.5	350	350	<3	<3	<5	<5	<5
SEP										
21...	140	<0.5	<0.5	200	--	<3	<3	<5	<5	<5

05469000 HENDERSON CREEK NEAR OQUAWKA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 24...	<5	<5	7	800	110	<5	<5	150	89	0.10
NOV 28...	<5	<5	<5	970	<50	7	<5	130	100	<0.05
JAN 03...	--	6	--	360	--	<5	<5	100	--	<0.05
FEB 07...	<5	6	6	430	92	<5	<5	190	190	<0.05
MAR 21...	7	<5	6	750	440	<5	<5	210	200	<0.05
APR 25...	<5	<5	<5	2800	<50	<5	<5	720	520	0.08
JUN 20...	<5	6	<5	1700	<50	<5	<5	130	41	<0.05
AUG 02...	<5	<5	8	530	<50	<5	<5	140	72	<0.05
SEP 21...	<5	<5	<5	670	<50	<5	<5	54	22	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
OCT 24...	<5	7	<3	<3.0	540	530	<5	<5	<100	<100
NOV 28...	<5	<5	<3	<3.0	490	480	<5	<5	<50	<50
JAN 03...	7	--	<3	--	500	--	<5	--	<50	--
FEB 07...	5	<5	<3	<3.0	610	610	<5	<5	130	<50
MAR 21...	<5	5	<3	<3.0	440	440	<5	<5	<50	<50
APR 25...	<5	<5	<3	<3.0	230	220	6	<5	<50	<50
JUN 20...	9	<5	<3	<3.0	360	--	10	<5	<50	<50
AUG 02...	<5	6	<3	<3.0	400	400	11	10	<100	<100
SEP 21...	<5	<5	<3	<3.0	290	290	<5	<5	<50	<50

05474500 MISSISSIPPI RIVER AT KEOKUK, IA

LOCATION.--Lat 40°23'37", long 91°22'27", in SE1/4SW1/4 sec.30, T.65 N., R.4 W., Lee County, Hydrologic Unit 07080104, near right bank in tailwater of dam and powerplant of Union Electric Co. at Keokuk, 0.2 mi upstream from bridge on U.S. Highway 136, 2.7 mi upstream from Des Moines River, and at mile 364.2 upstream from Ohio River.

DRAINAGE AREA.--119,000 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1878 to current year.

GAGE.--Water-stage recorder. Datum of gage is 477.41 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Jan. 1, 1878, to May 1913, nonrecording gage at Galland (formerly Nashville), 8 mi upstream; zero of gage was set to low-water mark of 1864, or 496.52 ft above NGVD.

REMARKS.--Discharge computed from records of operation of turbines in powerplant and spillway gates in dam. Minor flow regulation caused by powerplant since 1913 and navigation dams. Records for May 1913 to September 1937 adjusted for change in contents in Keokuk Reservoir, those after September 1937 unadjusted.

COOPERATION.--Records provided by Union Electric Co.

AVERAGE DISCHARGE.--111 years, 63,900 ft^3/s, 7.29 in/yr, 46,296,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 344,000 ft^3/s, Apr. 24, 1973; maximum gage height, 23.35 ft, Apr. 24, 1973; minimum daily discharge, 5,000 ft^3/s, Dec. 27, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 6, 1851, reached a stage of 21.0 ft, present site and datum, estimated as 13.5 ft at Galland, discharge, 360,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 126,000 ft^3/s, Apr. 8; minimum daily, 11,300 ft^3/s, Aug. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20400	20800	39100	30400	41800	28600	101000	65300	57000	30600	17200	31600
2	22900	19700	33800	30300	45400	28100	105000	61900	59100	34400	18400	35300
3	28700	21300	31600	30800	45100	27400	112000	67900	77000	37800	19600	42900
4	33100	23000	29300	29000	32300	28000	113000	63300	80900	34700	20900	39100
5	32500	25600	28900	28400	20200	30300	117000	60100	80000	34400	29500	33500
6	30600	26100	29900	29600	16800	32100	120000	58600	85600	30600	37100	30800
7	28300	26300	31300	29600	23400	37000	122000	60000	84000	30100	34000	32300
8	23300	27600	32400	25800	23700	34400	126000	60400	79500	29300	31500	40900
9	19900	30100	32900	19700	26200	33200	124000	64700	81700	27200	29700	57100
10	17600	25200	31800	22000	27800	32500	116000	63300	86100	24900	25300	72700
11	16800	21300	28500	29300	28400	34600	109000	62600	84300	24400	18800	72300
12	16300	25800	21100	28600	32000	44900	102000	62800	75500	26100	11300	60100
13	17100	28900	15900	27300	32300	70400	95400	61400	59200	28000	11900	46400
14	16800	29600	12100	26300	32900	71300	89200	60500	52300	24000	12200	44800
15	16300	29800	13200	26400	31800	77700	91500	59700	48400	22000	14000	40000
16	17100	27100	14300	28000	32100	77900	89300	57500	35700	18800	15800	34400
17	19000	25600	19500	28200	33100	72800	89900	54600	23900	15800	16200	27400
18	23100	31300	20900	27000	30000	77900	91100	55200	29000	15200	22000	18800
19	25000	36500	21000	27000	30000	78100	86600	50900	33700	18100	24200	19900
20	25200	40000	20800	27100	30400	70800	85600	53100	40200	25000	24300	19100
21	24400	40800	26000	25900	30000	73500	76500	50900	44300	26600	23300	18900
22	24000	40700	27200	25800	30600	76300	77100	50300	44600	26900	21200	22800
23	24500	40800	29300	28300	30500	64800	74700	48600	43000	26900	22400	30200
24	23800	40300	29500	28100	29400	56500	76200	44900	41800	26800	28200	29500
25	22800	38900	28400	28100	29300	48900	67200	38600	41100	27200	26500	24300
26	21300	37500	29300	30300	29700	50100	70100	40400	36400	27100	26100	20100
27	20900	38400	33100	28200	29600	53200	71300	43900	29300	24600	25300	18300
28	19700	38900	31000	28200	29000	59400	67500	44600	27100	21700	24600	18300
29	21400	36800	29500	30400	---	81000	67300	46900	30400	19300	25900	20200
30	23900	38700	28100	33900	---	94600	69900	46000	30000	16600	28300	22400
31	23300	---	29300	39000	---	97600	---	50500	---	18100	27800	---
TOTAL	700000	933400	829000	877000	853800	1743900	2803400	1709400	1621100	793200	713500	1024400
MEAN	22580	31110	26740	28290	30490	56250	93450	55140	54040	25590	23020	34150
MAX	33100	40800	39100	39000	45400	97600	126000	67900	86100	37800	37100	72700
MIN	16300	19700	12100	19700	16800	27400	67200	38600	23900	15200	11300	18300
AC-FT	1388000	1851000	1644000	1740000	1694000	3459000	5561000	3391000	3215000	1573000	1415000	2032000

CAL YR 1988 TOTAL 14239900 MEAN 38910 MAX 107000 MIN 11900 AC-FT 28240000
WTR YR 1989 TOTAL 14602100 MEAN 40010 MAX 126000 MIN 11300 AC-FT 28960000

05474500 MISSISSIPPI RIVER AT KEOKUK, IA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected at bridge on U.S. Highway 136, 0.2 mi downstream from discharge station.

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
07...	1200	17002	17002	26300	432	8.20	7.0	--	10.6	22	K10
JAN											
25...	1100	17002	17002	28100	440	8.70	2.0	7.3	18.5	25	K75
MAY											
12...	1100	17002	17002	62800	328	8.30	15.5	5.2	10.2	31	K50
AUG											
15...	1100	17002	17002	14000	383	7.50	26.0	8.8	6.6	23	K60

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
NOV											
07...	210	33	46	45	23	23	18	18	2.5	2.4	174
JAN											
25...	200	26	50	44	21	21	19	18	2.2	2.1	171
MAY											
12...	150	32	39	35	15	15	9.7	9.7	3.3	3.0	117
AUG											
15...	160	24	38	36	18	18	13	13	2.1	0.95	140

05474500 MISSISSIPPI RIVER AT KEOKUK, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV											
07...	26	23	0.1	242	4	3	0.280	<0.100	<0.002	--	1.0
JAN											
25...	33	27	0.1	248	29	7	1.30	<0.100	<0.005	--	1.4
MAY											
12...	31	14	<0.1	178	43	8	0.300	0.520	0.030	0.0	0.50
AUG											
15...	33	20	<0.1	205	--	--	0.160	0.210	0.004	1.4	1.6

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
NOV											
07...	1.3	0.140	0.070	450	<50	<1	50	43	<0.5	<0.5	<50
JAN											
25...	2.7	0.130	0.010	160	<50	<1	50	42	<0.5	<0.5	<50
MAY											
12...	0.80	0.190	0.050	800	50	1	60	44	<0.5	<0.5	<50
AUG											
15...	1.8	0.108	0.100	440	80	3	60	53	<0.5	<0.5	<50

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
07...	<50	<3	<3	<5	<5	<5	<5	<5	<5	610
JAN										
25...	<50	<3	<3	6	<5	<5	<5	<5	<5	200
MAY										
12...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1100
AUG										
15...	<50	<3	<3	<5	<5	<5	<5	<5	<5	600

05474500 MISSISSIPPI RIVER AT KEOKUK, IA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
NOV										
07...	<50	<5	<5	89	<5	<0.05	<5	<5	<3	<3.0
JAN										
25...	<50	<5	<5	50	6	<0.05	<5	<5	<3	<3.0
MAY										
12...	<50	<5	<5	160	<5	<0.05	<5	<5	<3	<3.0
AUG										
15...	<50	<5	<5	120	<5	<0.05	<5	<5	<3	<3.0

DATE	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
NOV										
07...	90	90	<5	<5	<50	<50	8.2	<0.005	<5	1
JAN										
25...	90	88	<5	<5	<50	<50	7.6	<0.005	<5	2
MAY										
12...	80	77	<5	<5	<50	<50	11	<0.005	<0	1
AUG										
15...	80	80	<5	<5	<50	<50	9.6	<0.005	<5	--

BEAR CREEK BASIN

05495500 BEAR CREEK NEAR MARCELLINE, IL

LOCATION.--Lat 40°08'34", long 91°20'14", between secs.20 and 21, T.2 N., R.8 W., Adams County, Hydrologic Unit 07110001, on right bank at downstream side of highway bridge, 0.9 mi downstream from Grindstone Creek, 2.2 mi northeast of Marcelline, and at mile 12.3.

DRAINAGE AREA.--349 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1944 to current year.

REVISED RECORDS.--WSP 1308: 1944-45(M), 1948(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 504.52 ft above National Geodetic Vertical Datum of 1929. Prior to June 24, 1949, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--45 years, 213 ft^3/s, 8.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft^3/s, Mar. 4, 1985, gage height, 28.38 ft; no flow for many days in 1953-56, 1962-64, 1976-77, 1988, and part of each day Aug. 17-19, 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Aug. 29	1030	*2,780	*9.69				

No flow part of each day Aug. 17-19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.40	e1.0	e1.1	e2.0	e.80	8.9	5.4	6.2	5.2	13	23
2	.10	.45	e.90	e1.0	e1.5	e1.5	9.4	3.7	5.7	3.5	6.8	9.4
3	.10	.47	e.80	e.94	e1.2	e5.0	38	3.0	4.9	2.1	4.7	6.0
4	.10	.62	e.72	e.88	e.92	e15	134	2.5	4.2	1.3	3.3	3.9
5	.10	.77	e.65	e.84	e.75	82	47	2.3	3.4	1.1	2.0	2.6
6	.10	.80	e.58	e.80	e.60	19	15	1.8	3.0	1.1	1.5	1.9
7	.10	.60	e.54	e.86	e.56	13	11	1.6	2.4	.88	1.0	1.5
8	.10	.49	e.50	e.95	e.65	12	9.7	1.4	2.2	.55	.53	39
9	.16	.37	e.45	e1.0	e.62	11	8.7	1.4	2.9	.29	.23	790
10	.16	.69	e.42	e1.1	e.58	11	7.5	1.5	5.8	.29	.10	184
11	.13	.64	e.40	e1.2	e.55	11	6.8	3.4	6.3	.24	.10	45
12	.13	1.2	e.45	e1.2	e.52	11	6.6	3.1	99	.19	.10	12
13	.13	1.4	e.50	e1.1	e.50	11	5.8	1.6	113	.25	.10	8.6
14	.14	1.2	e.42	e1.0	e.47	11	5.7	1.1	20	.29	.10	6.5
15	.13	1.2	e.37	e.90	e.45	11	5.6	.89	8.8	.29	.10	4.4
16	.12	1.5	e.30	e.85	e.50	10	5.3	.75	5.4	.24	.10	3.2
17	.11	1.1	e.32	e.80	e.56	10	5.1	.58	3.4	.19	.02	2.1
18	.10	.61	e.36	e.74	e.54	10	4.7	1.3	1.8	.19	.03	1.8
19	.11	.72	e.40	e.70	e.52	10	4.5	3.7	1.3	.37	.03	2.2
20	.10	.80	e.47	e.68	e.54	11	4.5	3.9	.78	.69	.10	1.8
21	.28	.77	e.55	e.64	e.58	11	4.5	3.8	.56	1.6	.10	1.8
22	.21	.69	e.58	e.62	e.62	11	4.6	4.2	.46	6.2	.10	1.6
23	.76	.62	e.90	e.60	e.58	11	4.5	4.3	.39	6.1	.10	1.2
24	.69	.56	e1.0	e.62	e.54	11	4.6	4.8	1.7	3.8	.10	.71
25	.48	.62	e.90	e.70	e.52	12	4.5	6.8	7.8	2.6	.10	.32
26	.48	1.7	e.85	e.80	e.50	12	4.2	5.2	4.5	1.8	.17	.37
27	.40	2.0	e.80	e.90	e.56	12	5.1	4.2	41	1.3	.10	.57
28	.29	1.8	e.75	e1.1	e.62	19	9.2	4.3	122	.89	.14	.72
29	.28	e1.3	e.70	e1.3	---	17	47	5.8	13	.66	1290	.90
30	.19	e1.1	e.85	e1.5	---	11	9.1	7.1	6.6	3.4	323	.90
31	.24	---	e.92	e1.7	---	9.8	---	5.7	---	42	94	---
TOTAL	6.62	27.19	19.35	29.12	19.05	413.10	441.1	101.12	498.49	89.60	1741.85	1157.99
MEAN	.21	.91	.62	.94	.68	13.3	14.7	3.26	16.6	2.89	56.2	38.6
MAX	.76	2.0	1.0	1.7	2.0	82	134	7.1	122	42	1290	790
MIN	.10	.37	.30	.60	.45	.80	4.2	.58	.39	.19	.02	.32
CFSM	.00	.00	.00	.00	.00	.04	.04	.01	.05	.01	.16	.11
IN.	.00	.00	.00	.00	.00	.04	.05	.01	.05	.01	.19	.12

CAL YR 1988 TOTAL 12854.68 MEAN 35.1 MAX 1490 MIN .00 CFSM .10 IN. 1.37
WTR YR 1989 TOTAL 4544.58 MEAN 12.5 MAX 1290 MIN .02 CFSM .04 IN. .48

e Estimated

05495500 BEAR CREEK NEAR MARCELLINE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
02...	1030	17002	17002	0.58	560	7.30	5.5	9.8	9.2	19	K20
DEC											
13...	1030	17002	17002	0.50	649	7.40	2.0	6.8	19.6	15	<5
JAN											
25...	1100	17002	17002	0.70	672	7.20	2.0	5.7	14.8	13	K2
MAR											
02...	1030	17002	17002	1.5	660	7.50	0.5	1.0	19.6	17	<2
APR											
04...	1015	17002	17002	154	424	7.20	9.0	140	8.4	61	160000
MAY											
12...	1215	17002	17002	3.0	486	8.40	18.5	16	12.0	48	<1000
JUN											
28...	1030	17002	17002	116	170	6.60	23.5	--	3.9	72	K5000
AUG											
15...	1300	17002	17002	0.10	365	7.80	26.5	11	7.9	33	K400
SEP											
28...	1130	17002	17002	0.80	360	8.10	15.5	4.7	8.7	21	K150

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
NOV										
02...	290	290	72	72	26	26	15	15	3.9	3.9
DEC										
13...	330	330	86	86	29	29	15	15	3.8	3.7
JAN										
25...	250	250	67	67	21	20	32	32	2.8	2.7
MAR										
02...	320	320	85	85	27	27	25	25	3.6	3.5
APR										
04...	180	180	52	48	16	14	14	13	9.9	8.9
MAY										
12...	220	220	61	60	19	18	16	16	5.9	5.6
JUN										
28...	60	60	24	17	8.1	4.3	3.6	3.2	11	8.8
AUG										
15...	160	160	44	44	12	12	10	10	7.4	7.1
SEP										
28...	170	170	48	48	12	12	6.6	6.6	7.7	7.6

05495500 BEAR CREEK NEAR MARCELLINE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
NOV										
02...	4	4	<0.100	<0.100	<0.001	0.100	0.060	100	<50	100
DEC										
13...	3	2	<0.100	<0.100	<0.001	0.060	0.010	<50	<50	100
JAN										
25...	8	3	<0.100	<0.100	<0.001	0.040	0.010	150	50	100
MAR										
02...	8	2	<0.100	<0.100	<0.001	0.046	0.020	130	90	90
APR										
04...	230	30	0.850	1.10	0.003	0.760	0.520	6600	110	200
MAY										
12...	48	14	<0.100	0.110	0.009	0.235	0.030	1500	80	200
JUN										
28...	80	12	1.40	1.20	0.003	0.840	0.210	19000	190	400
AUG										
15...	--	--	<0.100	<0.100	<0.004	0.170	0.070	890	<50	100
SEP										
28...	14	3	<0.100	<0.100	<0.004	0.120	0.060	830	<50	100

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
NOV										
02...	130	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC										
13...	110	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN										
25...	93	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR										
02...	86	<0.5	<0.5	<50	<50	<3	<3	<5	6	<5
APR										
04...	89	<0.5	<0.5	<50	<50	<3	<3	8	<5	<5
MAY										
12...	130	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN										
28...	62	<1.0	<0.5	<50	<50	<3	<3	20	<5	8
AUG										
15...	96	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP										
28...	120	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05495500 BEAR CREEK NEAR MARCELLINE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV										
02...	<5	<5	<5	380	<50	<5	<5	480	410	<0.05
DEC										
13...	<5	<5	<5	500	<50	<5	<5	360	280	<0.05
JAN										
25...	<5	6	<5	480	63	<5	<5	360	250	<0.05
MAR										
02...	5	<5	<5	530	110	<5	<5	630	520	0.06
APR										
04...	<5	13	<5	8700	71	6	<5	790	400	<0.05
MAY										
12...	<5	<5	<5	2000	<50	<5	<5	970	610	<0.05
JUN										
28...	<5	24	<5	25000	200	17	<5	1100	400	<0.05
AUG										
15...	<5	<5	<5	1300	<50	<5	<5	600	330	<0.05
SEP										
28...	<5	<5	<5	1000	<50	<5	<5	270	40	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV										
02...	<5	<5	<3	<3.0	200	200	<10	<10	<100	<100
DEC										
13...	<5	<5	<3	<3.0	240	240	<5	<5	<50	<50
JAN										
25...	<5	<5	<3	<3.0	190	180	<5	<5	<50	<50
MAR										
02...	9	10	<3	<3.0	220	220	<5	<5	<50	<50
APR										
04...	9	<5	<3	<3.0	150	130	13	<5	<50	<50
MAY										
12...	6	6	<3	<3.0	190	180	6	<5	<50	<50
JUN										
28...	28	6	<3	<3.0	80	51	42	<5	130	<50
AUG										
15...	<5	<5	<3	<3.0	130	120	<5	<5	<50	<50
SEP										
28...	6	<5	<3	<3.0	130	130	<5	<5	<50	<50

05512500 BAY CREEK AT PITTSFIELD, IL

LOCATION.--Lat 39°37'30", long 90°47'40", in NE1/4SW1/4 sec.18, T.5 S., R.3 W., Pike County, Hydrologic Unit 07110004, on right bank at downstream side of bridge on abandoned highway, 50 ft downstream from Panther Creek, 0.1 mi downstream from bridge on State Highway 107, 0.4 mi downstream from Norfolk & Western Railway bridge, 1.4 mi northeast of Pittsfield, and at mile 33.6.

DRAINAGE AREA.--39.4 mi^2.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1175: 1940(P), 1941, 1949. WSP 1508: 1942. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 638.48 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 7, 1939, nonrecording gage at same site and datum.

REMARKS.--Records poor.

AVERAGE DISCHARGE.--50 years, 26.1 ft^3/s, 9.00 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,600 ft^3/s, Sept. 16, 1965, gage height, 14.77 ft, from rating curve extended above 4,400 ft^3/s; no flow during many periods.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 8, 1926, reached a stage of 18.4 ft, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 30	Unknown	*1,690	*8.99				

Minimum daily discharge, 0.01 ft^3/s, Oct. 4, 10-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	1.1	e.25	e.70	1.9	e1.0	3.4	e4.0	2.5	.90	e10	e3.0
2	.20	1.1	e.25	e.60	1.8	e2.0	9.1	e3.0	2.1	.84	e5.0	1.5
3	.13	1.3	e.25	e.50	1.7	9.6	34	e2.5	46	.72	e2.5	.84
4	.01	1.5	e.20	e.50	1.4	10	42	e2.2	7.6	.65	e2.0	.74
5	.12	1.4	e.20	10	e1.2	.95	23	e1.8	3.3	.65	e1.2	.76
6	.15	1.5	e.20	6.3	e1.0	.85	e12	e1.4	2.2	.49	e.80	.97
7	.11	1.6	e.20	2.0	e.80	.70	e8.0	e1.2	1.4	.53	.60	.61
8	.06	1.9	e.20	1.2	e.60	.66	e7.0	e2.0	1.2	.36	.74	e15
9	.03	3.7	e.20	.89	e.50	.64	e6.0	e3.0	1.0	.48	.87	e250
10	.01	2.1	e.20	.80	e.50	.85	e5.0	2.3	1.0	.38	.74	e30
11	.01	1.4	e.10	e.70	e.80	1.4	e4.5	1.4	.92	.36	.65	e10
12	.01	6.6	e.10	e.60	e1.2	1.5	e4.0	.59	1.1	.40	.70	e5.0
13	.01	.58	e.10	e.50	2.2	1.8	e3.5	.48	1.0	.33	.69	e3.0
14	.03	.70	e.10	e.50	2.3	2.1	e3.2	.33	.85	.26	.66	2.0
15	.04	7.2	e.10	e.50	2.3	1.8	e3.0	.30	.82	.24	.90	1.8
16	.08	25	e.10	e.50	2.3	1.5	e2.8	.20	.74	.29	.97	1.2
17	.18	.20	e.10	e.50	2.2	1.8	e2.6	.13	.67	.29	.59	.84
18	.19	.05	e.10	e.40	2.0	2.1	e2.5	.12	.68	.42	.41	.42
19	.18	.44	e.10	e.40	2.1	1.9	e4.0	.64	.74	.48	.35	.21
20	.22	1.1	e.10	e.30	2.2	4.2	e3.0	.25	1.1	1.0	.59	.29
21	.30	1.3	e1.0	e.30	2.3	3.1	e2.5	.99	.81	e3.0	.69	.17
22	.28	1.7	28	e.30	e2.0	1.4	e2.2	3.1	.82	e10	.75	.10
23	.41	2.1	.76	e.30	e1.6	2.0	e2.0	.24	.77	e4.0	1.0	.07
24	.43	2.5	.30	e.30	e1.4	2.2	e1.8	.10	.68	e2.5	.86	.12
25	.43	2.7	.71	e2.0	e1.4	2.1	e1.6	24	.62	e1.5	.82	.20
26	.51	17	1.2	3.7	e1.2	2.0	e1.4	74	17	e1.0	.80	e.20
27	.75	1.0	5.1	2.0	e1.2	2.3	e2.0	9.8	235	e.70	.76	e.30
28	.79	.30	2.4	1.7	e1.1	3.4	e5.0	3.6	6.2	e.50	e5.0	e.40
29	.76	e.25	1.5	1.9	---	4.6	e10	7.7	2.2	e1.0	e40	e.40
30	.79	e.25	e1.1	1.9	---	4.0	e5.0	7.4	1.2	e350	e15	e.50
31	.94	---	e.80	1.9	---	3.6	---	3.6	---	e50	e7.0	---
TOTAL	11.66	89.57	46.02	44.69	43.20	78.05	216.1	162.37	342.22	434.27	103.64	330.64
MEAN	.38	2.99	1.48	1.44	1.54	2.52	7.20	5.24	11.4	14.0	3.34	11.0
MAX	3.5	25	28	10	2.3	10	42	74	235	350	40	250
MIN	.01	.05	.10	.30	.50	.64	1.4	.10	.62	.24	.35	.07
CFSM	.01	.08	.04	.04	.04	.06	.18	.13	.29	.36	.08	.28
IN.	.01	.08	.04	.04	.04	.07	.20	.15	.32	.41	.10	.31

CAL YR 1988 TOTAL 4541.22 MEAN 12.4 MAX 1000 MIN .00 CFSM .31 IN. 4.29
WTR YR 1989 TOTAL 1902.43 MEAN 5.21 MAX 350 MIN .01 CFSM .13 IN. 1.80

e Estimated

BAY CREEK BASIN

05513000 BAY CREEK AT NEBO, IL

LOCATION.--Lat 39°26'35", long 90°47'45", in NW1/4 sec.19, T.7 S., R.3 W., Pike County, Hydrologic Unit 07110004, on left bank at highway bridge, 650 ft upstream from Spring Creek, 0.2 mi west of Nebo, 1.6 mi upstream from Illinois Central Gulf Railroad bridge, and at mile 6.8. Records include flow of Spring Creek.

DRAINAGE AREA.--148 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-23 and 79-24 as site KCA 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV 01...	1200	17002	17002	4.5	535	6.90	7.5	14	9.4	29	K7500
DEC 12...	1200	17002	17002	0.40	405	7.10	2.0	17	10.8	15	K20000
JAN 24...	1215	17002	17002	0.50	456	7.10	4.0	11	13.0	8	K3400
MAR 01...	1200	17002	17002	6.0	455	7.00	1.0	6.3	16.2	22	4700
APR 03...	1200	17002	17002	154	348	7.70	9.5	120	9.5	49	K97000
MAY 11...	1200	17002	17002	7.0	502	7.70	17.0	30	9.0	29	23000
JUN 27...	1200	17002	17002	1100	375	7.00	24.5	--	0.3	400	K40000
AUG 17...	1145	17002	17002	1.2	385	7.10	22.5	15	4.4	28	K72000
SEP 26...	1300	17002	17002	2.3	340	--	17.0	5.6	--	33	K800

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
NOV 01...	220	220	63	62	16	16	25	25	5.7	5.6
DEC 12...	190	190	53	53	13	13	9.9	10	5.2	5.2
JAN 24...	200	200	58	57	13	13	12	13	3.6	3.5
MAR 01...	190	190	55	54	14	14	18	18	5.5	5.4
APR 03...	150	150	45	43	12	10	9.8	9.8	8.2	7.0
MAY 11...	230	230	64	63	17	17	16	16	5.6	5.2
JUN 27...	110	110	86	30	35	9.3	16	14	16	8.8
AUG 17...	170	170	49	49	11	12	13	13	7.7	7.6
SEP 26...	160	160	46	45	12	11	8.7	8.7	7.9	7.7

05513000 BAY CREEK AT NEBO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
NOV 01...	3	3	<0.100	2.60	0.003	1.20	0.730	240	<50	100
DEC 12...	15	3	4.40	0.940	0.001	0.190	0.090	490	<50	90
JAN 24...	15	2	1.80	0.540	<0.001	0.110	0.020	330	<50	90
MAR 01...	12	5	1.70	1.00	<0.001	0.280	0.060	360	<50	70
APR 03...	220	30	1.50	1.10	0.010	0.780	0.290	6000	100	100
MAY 11...	66	13	<0.100	0.270	0.004	0.290	0.040	1500	100	100
JUN 27...	415	34	1.90	1.60	0.009	5.80	0.080	95000	120	1700
AUG 17...	73	21	<0.100	1.10	0.007	0.452	0.160	860	<50	100
SEP 26...	106	22	<0.100	<0.100	--	0.100	0.060	2400	70	100

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
NOV 01...	87	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC 12...	79	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN 24...	76	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR 01...	54	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
APR 03...	66	<0.5	<0.5	<50	<50	<3	<3	9	<5	<5
MAY 11...	110	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 27...	86	9.0	<0.5	<50	<50	<3	<3	120	<5	80
AUG 17...	110	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP 26...	98	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05513000 BAY CREEK AT NEBO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV 01...	<5	<5	<5	670	55	<5	<5	740	650	<0.05
DEC 12...	<5	<5	<5	1600	<50	17	<5	1200	1200	<0.05
JAN 24...	<5	<5	<5	1400	<50	6	<5	940	900	<0.05
MAR 01...	<5	<5	<5	1500	<50	<5	<5	520	480	<0.05
APR 03...	<5	10	<5	8100	59	10	<5	690	410	<0.05
MAY 11...	<5	<5	<5	3200	110	<5	<5	1300	1000	<0.05
JUN 27...	<5	140	<5	150000	<50	140	<5	9600	1300	<0.05
AUG 17...	<5	<5	<5	2100	<50	<5	<5	1700	1200	<0.05
SEP 26...	<5	8	<5	3000	<50	<5	<5	590	360	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 01...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50
DEC 12...	<5	<5	<3	<3.0	110	110	<5	<5	<50	<50
JAN 24...	6	<5	<3	<3.0	110	110	<5	<5	<50	<50
MAR 01...	5	5	<3	<3.0	100	100	<5	<5	<50	<50
APR 03...	8	<5	<3	<3.0	100	92	14	<5	<50	<50
MAY 11...	6	<5	<3	<3.0	130	130	6	<5	<50	<50
JUN 27...	150	6	<3	<3.0	210	70	200	<5	480	<50
AUG 17...	<5	<5	<3	<3.0	110	110	<5	<5	140	<100
SEP 26...	<5	<5	<3	<3.0	110	100	8	<5	<50	<50

05587450 MISSISSIPPI RIVER AT GRAFTON, IL

LOCATION.--Lat 38°58'05", long 90°25'42", in NE1/4 sec.15, T.6 N., R.12 W., Jersey County, Hydrologic Unit 07110009, on left bank 0.2 mi downstream from the mouth of the Illinois River and 15.3 mi above Lock and Dam 26, 23.0 mi above mouth of Missouri River, and at mile 218.6 upstream of the mouth of the Ohio River.

DRAINAGE AREA.--171,300 mi^2, approximately.

PERIOD OF RECORD.--October 1927 to current year. Prior to Oct. 1, 1986, published as "Mississippi River at Alton." Intermittent discharge from 1880 to 1928, computed daily 1928 to 1932 by National Weather Service and/or U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 403.79 ft above National Geodetic Vertical Datum of 1929. Auxiliary water-stage recorder 15.3 mi downstream.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of river affected by many navigation dams in upper Mississippi River basin. Flood water from Missouri River overtops or breaches the levees at extreme high stages.

AVERAGE DISCHARGE.--62 years, 102,500 ft^3/s, 74,261,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535,000 ft^3/s, Apr. 29, 1973, includes undetermined amount of overflow from Missouri River; maximum elevation, 436.99 ft, Apr. 28, 1973; minimum discharge, 7,960 ft^3/s, Nov. 7, 1948, result of temporary storage in pool of lock and dam 26.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1844 reached a stage of 435.89 ft, present datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163,000 ft^3/s, Apr. 5; maximum elevation, 419.70 ft, Mar. 20; minimum daily discharge, 20,100 ft^3/s, Dec. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36900	26100	36800	37000	43900	40800	121000	74100	71900	51100	35700	43800
2	23300	32800	41900	41000	46100	44800	127000	75500	76100	51200	37700	51800
3	23300	34300	34300	36600	42800	46100	135000	74800	79000	48400	39700	61400
4	28200	30200	36300	41500	44900	41300	142000	81100	93200	51800	33100	60300
5	32700	21600	33500	48800	37300	34000	156000	71800	103000	50700	32100	64500
6	37800	23300	34100	46400	31100	37300	157000	67100	113000	51700	39900	60500
7	28700	32700	37500	39400	34700	44400	154000	70300	115000	44500	47900	58200
8	24000	30400	33100	40600	39200	50600	141000	73700	111000	40700	42000	60600
9	24300	36000	34000	42000	46900	49800	143000	73500	105000	35500	39800	81000
10	23700	30900	31400	37900	44100	49400	144000	73400	97900	38400	37700	85800
11	21300	36300	35600	39200	42600	51700	140000	72100	105000	38800	38600	97600
12	23900	36100	26500	31000	46400	61500	131000	71500	103000	38800	35500	101000
13	31200	34700	24700	42000	44500	73400	121000	70000	94800	41100	29400	96500
14	33700	38600	20100	38300	43100	69800	107000	70600	80500	41100	28100	84400
15	28700	38600	24100	38500	40900	74100	99800	70300	67000	45800	26200	74300
16	20700	25100	21900	38200	43300	91400	101000	72100	64600	36100	29700	66500
17	33000	35600	20700	40800	42400	99400	104000	69700	59000	37600	33700	60100
18	23300	41100	27200	34700	42200	94100	103000	68200	55800	38600	37000	54700
19	29400	36300	43800	40200	39400	91300	95800	66000	49200	21400	37800	51000
20	35800	36500	26100	42800	37500	101000	97600	59300	56700	32700	37200	51200
21	28400	43400	39100	41400	38900	102000	89900	63300	56700	45600	37900	53200
22	29200	43400	38800	39800	40600	93100	86300	62700	62300	44100	34900	52200
23	24900	46600	45500	37700	38000	93200	85300	59700	61000	45800	34200	51500
24	21900	44200	36200	35700	44900	94300	85600	64100	53700	50000	32300	55300
25	25200	45200	35100	37800	44300	77100	84700	63000	51700	44400	42900	56700
26	28500	42200	49000	30400	30400	77000	81600	66100	52600	45300	39400	49300
27	29300	25100	40100	36800	42400	67300	76700	58800	54900	41400	37500	50300
28	28800	25300	40800	39800	33500	74500	80900	65600	48800	37700	38300	48200
29	31100	34000	45100	36900	---	84200	79800	76600	45600	43300	42900	44100
30	29400	25200	44600	36600	---	108000	79200	78500	46900	36400	54000	44600
31	28800	---	36700	40300	---	122000	---	76000	---	42900	45800	---
TOTAL	869400	1031800	1074600	1210100	1146300	2238900	3350200	2159500	2234900	1312900	1158900	1870600
MEAN	28050	34390	34660	39040	40940	72220	111700	69660	74500	42350	37380	62350
MAX	37800	46600	49000	48800	46900	122000	157000	81100	115000	51800	54000	101000
MIN	20700	21600	20100	30400	30400	34000	76700	58800	45600	21400	26200	43800

CAL YR 1988 TOTAL 22327100 MEAN 61000 MAX 172000 MIN 20100
WTR YR 1989 TOTAL 19658100 MEAN 53860 MAX 157000 MIN 20100

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL

LOCATION.--Lat 38°57'04", long 90°22'16", in sec. 19, T.6 N., R.11 W., Jersey County, Hydrologic Unit 07110009, 11.3 mi above Lock and Dam 26, 19.0 mi above mouth of Missouri River, and at mile 214.6 above Ohio River.

DRAINAGE AREA.--171,300 mi^2, approximately.

PERIOD OF RECORD.--March to September 1989.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
MAR												
14...	1130	1028	80020	85000	538	8.90	4.0	23	9.6	--	--	K16
MAY												
04...	1030	1028	80020	81000	394	8.20	17.5	24	7.4	--	--	K6
04...	1100	17002	17002	81000	394	8.20	17.5	9.3	7.4	25	K10	--
JUL												
13...	1220	1028	80020	42000	397	8.50	30.5	14	8.1	--	--	K6
SEP												
07...	1000	17002	17002	58800	449	7.90	25.5	34	6.5	23	K10	--
07...	1030	1028	80020	58800	449	8.00	25.5	31	6.5	--	--	25

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
MAR											
14...	420	210	37	--	50	--	21	--	28	--	3.4
MAY											
04...	K4	170	42	--	40	--	17	--	14	--	3.9
04...	--	140	19	41	34	16	14	13	11	3.8	3.3
JUL											
13...	0	170	44	--	41	--	17	--	17	--	2.8
SEP											
07...	--	180	46	41	40	19	19	24	24	4.0	3.3
07...	K24	170	39	--	39	--	18	--	26	--	4.0

DATE	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAR											
14...	12	190	176	175	52	41	--	0.20	4.1	321	311
MAY											
04...	0	154	126	128	36	19	--	0.20	0.95	223	215
04...	--	--	--	124	40	21	0.1	--	--	--	198
JUL											
13...	8	135	124	129	36	20	--	0.20	0.57	244	215
SEP											
07...	--	--	--	132	44	34	0.2	--	--	--	244
07...	0	171	140	133	40	32	--	0.30	2.6	263	248

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)
MAR											
14...	--	--	--	1.50	0.060	0.070	0.64	0.70	--	0.140	0.140
MAY											
04...	--	--	--	1.60	0.080	0.050	0.62	0.70	--	0.110	0.080
04...	70	9	1.50	--	0.200	--	1.1	1.3	2.8	0.180	0.080
JUL											
13...	--	--	--	0.570	0.070	0.060	1.1	1.2	--	0.190	0.080
SEP											
07...	118	15	1.20	--	<0.100	--	--	1.0	2.2	0.240	0.120
07...	--	--	--	1.40	0.020	0.010	1.3	1.3	--	0.270	0.120

DATE	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (C1010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)
MAR											
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	<10	--	1	--	57	--	1	--	--	--
04...	1100	130	3	--	70	48	<0.5	<0.5	<50	<50	--
JUL											
13...	--	<10	--	2	--	62	--	<0.5	--	--	--
SEP											
07...	1500	<50	2	--	80	67	<0.5	<0.5	80	80	<3
07...	--	--	--	--	--	--	--	--	--	--	--

DATE	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAR											
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	<1	--	<1	--	<3	--	9	--	14	--	<1
04...	--	<5	<5	<5	<5	13	<5	1500	<50	8	<5
JUL											
13...	<1	--	<1	--	<3	--	4	--	6	--	<1
SEP											
07...	<3	<5	<5	<5	<5	13	<5	2200	<50	14	<5
07...	--	--	--	--	--	--	--	--	--	--	--

05587455 MISSISSIPPI RIVER BELOW GRAFTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)
MAR											
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	8	--	<0.1	--	2	<1	--	<1.0	--	100
04...	150	10	<0.05	--	7	7	--	<3	<3.0	90	75
JUL											
13...	--	13	--	<0.1	--	1	<1	--	<1.0	--	110
SEP											
07...	200	24	0.08	--	<5	<5	--	<3	<3.0	150	140
07...	--	--	--	--	--	--	--	--	--	--	--

DATE	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
MAR											
14...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	<6	--	9	--	--	--	--	69	15100	74
04...	<5	<5	<50	<50	8.2	<0.005	<5	1	--	--	--
JUL											
13...	--	<6	--	6	--	--	--	--	16	1810	90
SEP											
07...	7	<5	<100	<100	8.5	<0.005	<5	--	--	--	--
07...	--	--	--	--	--	--	--	--	102	16200	91

05587550 MISSISSIPPI RIVER BELOW ALTON, IL
(National stream-quality accounting network station)

LOCATION.--Lat 38°51'41", long 90°08'15", Madison County, Hydrologic Unit 07110009, 4.7 mi upstream from Missouri River and at mile 199.7 upstream from Ohio River.

DRAINAGE AREA.--171,500 mi^2, approximately, above gaging station.

PERIOD OF RECORD.--Water years 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)
NOV											
03...	1130	1028	80020	40500	464	8.70	10.0	6.6	11.0	K10	K8
JAN											
11...	1200	1028	80020	33100	523	8.70	1.5	21	14.7	68	1800
MAR											
14...	0910	1028	80020	87600	559	8.80	4.5	21	12.6	K8	170
MAY											
04...	1300	1028	80020	75600	423	8.00	18.0	19	6.9	120	94
JUL											
13...	0955	1028	80020	51000	426	8.30	30.5	6.0	6.2	K7	K140
SEP											
07...	1445	1028	80020	47600	466	8.00	26.0	20	5.4	31	37

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV											
03...	210	41	45	23	23	3.3	7	188	166	166	38
JAN											
11...	170	22	39	18	22	2.9	5	176	152	150	53
MAR											
14...	220	46	52	22	31	3.6	43	128	177	175	52
MAY											
04...	170	42	41	17	15	3.8	0	161	132	131	41
JUL											
13...	190	51	43	19	19	3.5	0	161	132	135	42
SEP											
07...	170	42	40	18	28	4.2	0	164	134	132	43

05587550 MISSISSIPPI RIVER BELOW ALTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)
NOV 03...	29	0.20	0.14	262	263	0.420	0.020	0.020	0.58	0.60	0.150
JAN 11...	37	0.30	2.1	305	268	0.800	0.090	0.040	1.3	1.4	0.140
MAR 14...	48	0.20	3.9	343	325	1.60	0.060	0.070	1.7	1.8	0.150
MAY 04...	22	0.20	1.2	242	229	2.00	0.090	0.060	1.0	1.1	0.170
JUL 13...	25	0.20	1.0	266	237	0.730	0.130	0.130	0.77	0.90	0.130
SEP 07...	35	0.30	2.7	254	257	1.40	0.030	0.020	0.97	1.0	0.250

DATE	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
NOV 03...	0.070	<10	3	55	<0.5	2	<1	<3	6	6	6
JAN 11...	0.030	10	<1	33	<0.5	<1	1	<3	5	10	<5
MAR 14...	0.040	--	--	--	--	--	--	--	--	--	--
MAY 04...	0.090	<10	1	56	0.9	<1	<1	<3	7	14	<1
JUL 13...	0.100	<10	2	67	<0.5	<1	1	<3	13	5	1
SEP 07...	0.170	--	--	--	--	--	--	--	--	--	--

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MERCURY DISSOLVED (UG/L AS HG) (71890)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 03...	4	<0.1	4	<1	2.0	120	<6	<3	40	4370	49
JAN 11...	3	<0.1	1	<1	<1.0	110	<6	6	32	2860	81
MAR 14...	--	--	--	--	--	--	--	--	68	16100	73
MAY 04...	2	<0.1	2	<1	<1.0	100	<6	8	48	9800	79
JUL 13...	2	<0.1	2	<1	<1.0	130	<6	17	9	1240	97
SEP 07...	--	--	--	--	--	--	--	--	76	9770	87

05587900 CAHOKIA CREEK AT EDWARDSVILLE, IL

LOCATION.--Lat 38°49'28", long 89°58'29", in NW1/4SE1/4 sec.3, T.4 N., R.8 W., Madison County, Hydrologic Unit 07140101, on right bank at upstream side of bridge on State Highway 143 in Edwardsville, 0.6 mi upstream from Illinois Terminal Railroad bridge, and at mile 9.4.

DRAINAGE AREA.--212 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1969 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 425.62 ft above National Geodetic Vertical Datum of 1929. Apr. 8, 1983, to July 2, 1985, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--20 years, 149 ft^3/s, 9.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,200 ft^3/s, Apr. 12, 1979, gage height, 24.74 ft; no flow for many days in 1987-88.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	1800	*2,950	*13.99				

No flow Oct. 8, 9, 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.72	e2.5	10	e60	45	e21	301	47	e40	3.6	262	e25
2	1.2	e2.5	8.0	e45	e40	e20	549	34	e100	3.8	69	e20
3	.69	e4.0	6.6	e40	e50	35	1850	29	e70	3.8	6.1	e30
4	.48	39	5.9	e50	e60	49	1810	30	e30	3.6	1.5	e20
5	.48	52	5.5	200	e40	47	655	36	e15	3.5	1.2	e12
6	.48	24	5.2	1040	e30	24	386	29	e15	3.4	1.0	6.0
7	.24	15	4.7	323	e25	42	304	24	e10	3.4	.75	5.0
8	.00	15	4.2	94	e20	56	274	22	e8.0	3.0	.77	5.4
9	.00	27	3.8	47	e17	50	217	27	e7.0	2.7	.84	1400
10	.06	153	3.4	39	e14	85	168	29	e6.5	2.6	.84	824
11	.05	e100	3.1	35	e12	356	143	24	e6.0	2.4	.93	527
12	.00	e50	2.8	30	e10	897	130	e22	e10	2.3	1.1	244
13	.00	e35	2.6	24	e15	407	115	e20	e7.0	2.6	1.1	46
14	.10	e25	2.9	21	e50	336	102	e19	e6.0	2.0	1.2	176
15	.10	e20	3.0	e20	e120	219	93	e18	e5.0	2.0	1.3	319
16	.10	e80	2.8	e18	110	133	85	e17	e4.0	1.9	2.7	116
17	5.4	e200	2.3	e17	82	103	75	e16	e5.0	2.0	2.8	68
18	13	e100	2.4	e16	66	92	148	e15	e6.0	2.1	1.6	e30
19	9.7	e50	2.6	e15	51	74	114	e15	e8.0	2.4	1.3	e25
20	5.8	e150	3.4	e14	26	1600	75	e30	e9.0	3.4	2.0	e20
21	4.2	290	3.8	e14	e90	1630	65	e150	7.5	10	e5.0	e16
22	4.2	90	6.3	e13	e250	443	58	e70	6.2	1.8	e20	14
23	12	38	377	e13	e150	295	56	e40	5.6	2.3	e40	12
24	11	23	124	e12	e70	223	51	e30	5.0	2.3	e50	11
25	7.9	17	55	e20	e40	176	47	20	4.4	2.1	e150	e10
26	5.1	44	50	300	e30	147	43	e100	4.1	2.3	e70	e9.0
27	e4.0	53	e80	e500	e25	126	38	e300	6.0	2.3	e20	e8.5
28	e3.5	32	e350	e300	e23	123	36	e100	4.2	2.7	e60	e8.0
29	e3.0	20	e250	e120	---	132	86	e250	4.1	382	e100	e7.5
30	e2.7	14	e150	e80	---	155	85	e150	3.7	450	e40	e7.0
31	e2.5	---	e90	e60	---	427	---	e60	---	405	e20	---
TOTAL	98.70	1765.0	1621.3	3580	1561	8523	8159	1773	418.3	1319.3	935.03	4021.4
MEAN	3.18	58.8	52.3	115	55.7	275	272	57.2	13.9	42.6	30.2	134
MAX	13	290	377	1040	250	1630	1850	300	100	450	262	1400
MIN	.00	2.5	2.3	12	10	20	36	15	3.7	1.8	.75	5.0
CFSM	.02	.28	.25	.54	.26	1.30	1.28	.27	.07	.20	.14	.63
IN.	.02	.31	.28	.63	.27	1.50	1.43	.31	.07	.23	.16	.71

CAL YR 1988 TOTAL 33252.84 MEAN 90.9 MAX 2500 MIN .00 CFSM .43 IN. 5.83
WTR YR 1989 TOTAL 33775.03 MEAN 92.5 MAX 1850 MIN .00 CFSM .44 IN. 5.93

e Estimated

05587900 CAHOKIA CREEK AT EDWARDSVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
01...	0800	17002	17002	2.5	593	7.80	7.5	10	4.8	21	K150
DEC											
15...	0800	17002	17002	6.5	242	7.30	1.0	9.7	12.5	13	K70
JAN											
26...	0800	17002	17002	274	416	8.30	8.5	300	10.0	85	6400
FEB											
01...	0900	17002	17002	45	705	8.10	7.0	10	11.6	19	K60
MAR											
23...	0800	17002	17002	305	509	8.00	5.0	62	11.0	25	K600
MAY											
25...	1000	17002	17002	20	653	7.70	21.0	7.8	7.4	16	760
JUN											
27...	1100	17002	17002	6.0	619	7.70	25.5	3.9	4.8	16	2200
AUG											
17...	0800	17002	17002	1.2	481	7.70	21.0	26	3.8	28	K30000
SEP											
25...	1200	17002	17002	10	628	7.30	13.0	4.1	11.1	19	460

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
NOV											
01...	260	18	64	60	28	26	24	22	3.1	2.8	239
DEC											
15...	280	80	73	69	28	26	35	33	4.2	3.8	200
JAN											
26...	140	100	50	33	21	13	17	14	4.4	2.1	33
FEB											
01...	310	120	74	74	31	30	30	30	3.3	3.3	186
MAR											
23...	190	55	56	47	22	18	19	16	2.3	1.3	137
MAY											
25...	250	37	73	63	26	22	26	22	4.6	3.5	211
JUN											
27...	300	76	77	73	30	28	27	26	3.9	3.8	222
AUG											
17...	190	6	52	46	20	18	18	17	4.4	0.65	183
SEP											
25...	260	57	74	66	27	24	28	26	5.8	5.0	207

05587900 CAHOKIA CREEK AT EDWARDSVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
NOV 01...	58	17	4	<0.100	<0.100	<0.001	0.120	0.080	400	<50	80
DEC 15...	140	8	2	0.780	0.200	<0.001	0.210	0.090	200	<50	70
JAN 26...	84	280	32	1.00	0.250	0.008	0.970	0.180	17000	180	300
FEB 01...	150	29	5	1.10	0.130	0.002	0.278	0.140	470	<50	80
MAR 23...	98	131	12	1.50	0.300	0.004	0.260	0.100	3100	190	100
MAY 25...	110	74	8	0.540	0.300	0.007	0.170	0.100	1700	240	100
JUN 27...	96	52	7	<0.100	<0.100	<0.003	0.160	0.060	1600	200	100
AUG 17...	62	136	20	0.190	0.240	0.005	0.130	0.050	2000	<50	100
SEP 25...	98	47	8	0.290	<0.100	<0.001	0.200	0.130	1400	90	100

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 01...	72	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC 15...	61	<0.5	<0.5	140	130	<3	<3	<5	<5	<5
JAN 26...	40	<2.0	<0.5	60	<50	<3	<3	23	<5	10
FEB 01...	69	<0.5	<0.5	100	100	<3	<3	<5	<5	<5
MAR 23...	57	<0.5	<0.5	70	60	<3	<3	6	<5	<5
MAY 25...	80	<0.5	<0.5	110	90	<3	6	<5	<5	<5
JUN 27...	88	<0.5	<0.5	110	110	<3	<3	5	<5	<5
AUG 17...	69	<0.5	<0.5	50	50	<3	<3	<5	<5	<5
SEP 25...	92	<0.5	<0.5	150	130	<3	<3	5	<5	<5

05587900 CAHOKIA CREEK AT EDWARDSVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV 01...	<5	<5	<5	730	<50	5	<5	550	470	<0.05
DEC 15...	<5	<5	<5	680	<50	<5	<5	1400	1300	0.07
JAN 26...	<5	25	<5	24000	160	26	<5	1100	73	<0.05
FEB 01...	<5	<5	<5	840	<50	<5	<5	230	180	<0.05
MAR 23...	<5	<5	<5	4100	110	<5	<5	230	64	<0.05
MAY 25...	<5	<5	<5	1900	<50	<5	<5	270	120	<0.05
JUN 27...	<5	<5	<5	1800	<50	<5	<5	420	280	<0.05
AUG 17...	<5	<5	<5	3000	<50	13	<5	900	580	<0.05
SEP 25...	<5	<5	<5	1600	<50	<5	<5	360	240	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV 01...	<5	<5	<3	<3.0	170	160	30	--	<50	<50
DEC 15...	7	<5	<3	<3.0	170	160	<5	<5	<50	<50
JAN 26...	30	7	<3	<3.0	130	84	40	<5	110	<50
FEB 01...	<5	<5	<3	<3.0	190	180	<5	<5	<50	<50
MAR 23...	<5	<5	<3	<3.0	150	120	6	<5	<50	<50
MAY 25...	6	8	<3	<3.0	190	160	7	<5	<50	<50
JUN 27...	7	8	<3	<3.0	190	180	6	<5	<50	<50
AUG 17...	<5	<5	<3	<3.0	140	120	8	<5	120	<100
SEP 25...	7	<5	<3	<3.0	200	170	5	<5	<50	<50

05588000 INDIAN CREEK AT WANDA, IL

LOCATION.--Lat 38°50'30", long 90°01'59", in SE1/4NW1/4 sec.31, T.5 N., R.8 W., Madison County, Hydrologic Unit 07140101, on right bank at upstream side of bridge on State Highway 143, 0.8 mi northeast of Wanda, 2.2 mi upstream from mouth, 5 mi west of Edwardsville, and at mile 2.9.

DRAINAGE AREA.--36.7 mi^2.

PERIOD OF RECORD.--April 1940 to current year.

REVISED RECORDS.--WSP 1175: 1941, 1942(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 429.52 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1960, water-stage recorder at site 60 ft upstream at datum 2.00 ft higher. Oct. 1, 1960, to June 23, 1965, nonrecording gage at site 30 ft upstream at present datum. June 24, 1965, to May 10, 1967, nonrecording gage at present site and datum.

REMARKS.--Records fair except those for Oct. 1 to Mar. 7, which are poor.

AVERAGE DISCHARGE.--49 years, 25.8 ft^3/s, 9.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,340 ft^3/s, Aug. 15, 1946, gage height, 18.41 ft, site and datum then in use; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 3	2045	*984	*9.81				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e3.0	e7.0	e7.0	e4.5	24	4.2	3.4	.12	1.1	22
2	.00	.00	e2.7	e6.0	e20	e4.0	149	3.7	3.0	.11	.69	5.9
3	.00	.00	e2.4	e7.0	e10	e5.0	398	3.6	3.1	.11	.43	.74
4	.00	.00	e2.2	e12	e7.0	e20	238	3.8	2.4	.12	.13	.33
5	.00	.00	e2.0	25	e6.0	e8.0	46	4.6	2.7	.07	.06	.22
6	.00	.00	e1.8	e150	e5.0	e10	31	3.7	2.7	.11	.01	.18
7	.00	.00	e1.6	e60	e4.0	e7.0	26	3.3	2.3	.02	.00	.16
8	.00	.00	e1.4	e30	e3.6	6.0	25	3.3	2.4	.00	.00	67
9	.00	.00	e1.3	e20	e3.3	5.1	20	3.8	2.5	.00	.00	184
10	.00	e30	e1.2	e16	e3.0	16	17	3.9	1.9	.00	.00	7.6
11	.00	e15	e1.1	e13	e2.7	179	15	3.3	1.7	.00	.00	2.1
12	.00	e20	e1.0	e11	e2.5	172	14	3.1	3.1	.00	.00	.79
13	.00	e10	e2.5	e10	e4.0	69	13	2.8	2.3	.00	.00	.38
14	.00	e7.0	e1.5	e9.0	e8.0	36	12	2.8	2.4	.00	.00	6.4
15	.00	e10	e1.0	e8.0	e30	20	12	2.6	2.0	.00	.00	2.6
16	.00	e80	e.70	e7.5	40	14	12	2.6	1.3	.00	.00	1.5
17	.00	e30	e.50	e7.0	e30	14	11	2.6	1.0	.00	.00	.89
18	.00	e10	e.50	e6.5	e15	14	27	2.5	56	.00	.00	.52
19	.00	e6.0	e.50	e8.0	e11	12	10	98	32	.00	.00	.43
20	.00	e150	e.50	e7.0	e9.0	440	7.5	57	2.4	.08	.00	.34
21	.00	25	e1.0	e6.5	e70	140	6.9	5.3	1.2	1.5	1.2	.25
22	.00	e15	e10	e6.0	e40	38	6.6	4.2	.74	.95	1.3	.22
23	.00	e10	e70	e5.5	e20	27	6.0	4.1	.49	.50	1.1	.09
24	.00	e7.0	e30	e5.0	e12	22	5.9	3.3	.39	.19	36	.01
25	.00	e5.0	e15	e15	e9.0	20	5.6	3.8	.29	.17	8.8	.00
26	.00	e25	e10	e150	e7.0	18	5.1	98	.24	.04	12	.00
27	.00	e10	e100	e50	e6.0	16	4.5	7.2	.41	.01	.90	.00
28	.00	e6.0	e40	e30	e5.0	16	4.4	5.3	.67	.19	39	.00
29	.00	e4.0	e20	e18	---	17	7.3	19	.27	53	17	.00
30	.00	e3.5	e12	e12	---	22	5.2	5.8	.18	11	1.4	.00
31	.00	---	e9.0	e9.0	---	58	---	4.1	---	4.1	2.4	---
TOTAL	0.00	478.50	346.40	727.0	390.1	1449.6	1165.0	375.3	135.48	72.39	123.52	304.65
MEAN	.00	15.9	11.2	23.5	13.9	46.8	38.8	12.1	4.52	2.34	3.98	10.2
MAX	.00	150	100	150	70	440	398	98	56	53	39	184
MIN	.00	.00	.50	5.0	2.5	4.0	4.4	2.5	.18	.00	.00	.00
CFSM	.00	.43	.30	.64	.38	1.27	1.06	.33	.12	.06	.11	.28
IN.	.00	.49	.35	.74	.40	1.47	1.18	.38	.14	.07	.13	.31

CAL YR 1988 TOTAL 7044.16 MEAN 19.2 MAX 705 MIN .00 CFSM .52 IN. 7.14
WTR YR 1989 TOTAL 5567.94 MEAN 15.3 MAX 440 MIN .00 CFSM .42 IN. 5.64

e Estimated

KASKASKIA RIVER BASIN

05590000 KASKASKIA DITCH AT BONDVILLE, IL

LOCATION.--Lat 40°06'47", long 88°20'55", in NW1/4NW1/4 sec.18, T.19 N., R.8 E., Champaign County, Hydrologic Unit 07140201, on left bank at downstream side of bridge on State Highway 10, 50 ft upstream from Illinois Central Gulf Railroad bridge, 1 mi east of Bondville, 3.8 mi west of Champaign, and at mile 289.6.

DRAINAGE AREA.--12.4 mi^2.

PERIOD OF RECORD.--December 1948 to current year. Prior to October 1970, published as Kaskaskia River at Bondville.

REVISED RECORDS.--WDR IL-75-1: Drainage area. WDR IL-86-1: 1984.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 689.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

AVERAGE DISCHARGE.--40 years (water years 1950-89), 10.6 ft^3/s, 11.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, May 16, 1968, gage height, 14.94 ft; no flow at times in 1954, 1964-65, 1967, and part of each day Oct. 28, 29, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 160 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1845	294	7.02	May 25	2300	*665	*10.59

Minimum daily discharge, 0.07 ft^3/s, Nov. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.21	.13	1.6	2.9	2.6	5.1	18	18	2.0	2.5	3.0
2	.12	.22	.31	1.3	2.4	2.7	16	16	16	1.6	2.5	2.1
3	.12	.23	.48	1.2	2.1	6.8	75	14	15	1.5	1.6	.60
4	.11	.41	.47	.80	1.9	23	59	14	13	1.3	.68	.43
5	.11	.58	.47	1.3	e1.8	14	38	13	13	1.1	.44	.31
6	.11	.35	.50	3.4	e1.6	11	31	12	12	.99	.36	.24
7	.11	.33	.48	7.9	e1.5	8.5	25	11	11	.99	.30	.21
8	.11	.33	.46	12	e1.4	8.3	30	12	11	.80	.25	33
9	.11	.43	.47	7.0	e1.4	10	29	20	10	.74	1.4	65
10	.11	.88	.47	5.4	e1.4	12	23	17	9.8	.81	2.6	22
11	.10	.23	.44	4.6	e1.3	12	21	15	10	2.5	2.5	9.6
12	.10	.10	.45	4.0	e1.3	9.6	19	14	12	5.1	2.5	6.7
13	.11	.14	.48	2.9	e1.4	9.2	17	13	11	4.7	2.4	5.2
14	.11	.08	.52	3.1	e1.3	9.4	17	12	10	4.4	2.7	13
15	.12	.07	.44	2.5	e1.3	7.5	16	11	10	4.1	2.7	11
16	.13	2.5	.41	2.2	e1.3	6.9	15	11	9.9	4.0	2.7	7.5
17	.15	.25	.39	2.2	e1.3	7.3	14	11	9.6	4.0	2.7	5.7
18	.15	.11	.44	2.2	e1.4	6.7	13	11	9.2	3.9	2.7	4.8
19	.14	.11	.48	1.9	e1.5	6.3	13	101	8.3	4.0	2.8	4.2
20	.14	2.1	.55	1.7	e1.6	8.5	12	126	7.7	5.1	2.8	3.6
21	.15	1.5	.42	1.6	e1.8	9.0	12	69	7.3	1.1	3.0	3.2
22	.15	.26	3.3	1.8	e1.5	7.9	12	51	6.4	1.8	3.4	3.2
23	.18	.24	16	1.8	e1.6	7.1	12	48	5.9	.93	3.9	2.9
24	.19	.21	4.6	1.7	e1.8	6.9	11	38	5.3	.90	5.0	2.7
25	.17	.18	2.5	1.8	e2.0	6.4	11	116	4.8	1.6	3.5	2.8
26	.17	.17	1.9	3.4	e2.2	6.1	11	253	4.4	2.5	3.5	2.8
27	.19	.17	4.1	3.2	e2.0	6.1	12	98	5.2	1.6	3.5	2.5
28	.18	.14	6.6	3.2	e2.4	6.1	51	57	3.4	2.6	3.7	2.4
29	.18	.14	3.6	3.3	---	5.7	30	39	2.5	2.6	4.2	2.4
30	.19	.14	2.8	3.2	---	6.3	21	27	2.3	2.6	4.2	2.4
31	.20	---	2.0	3.4	---	5.5	---	20	---	2.5	2.8	---
TOTAL	4.32	12.81	56.66	97.60	47.4	255.4	671.1	1288	274.0	74.36	79.83	225.49
MEAN	.14	.43	1.83	3.15	1.69	8.24	22.4	41.5	9.13	2.40	2.58	7.52
MAX	.20	2.5	16	12	2.9	23	75	253	18	5.1	5.0	65
MIN	.10	.07	.13	.80	1.3	2.6	5.1	11	2.3	.74	.25	.21
CFSM	.01	.03	.15	.25	.14	.66	1.80	3.35	.74	.19	.21	.61
IN.	.01	.04	.17	.29	.14	.77	2.01	3.86	.82	.22	.24	.68

CAL YR 1988 TOTAL 2002.49 MEAN 5.47 MAX 47 MIN .05 CFSM .44 IN. 6.01
WTR YR 1989 TOTAL 3086.97 MEAN 8.46 MAX 253 MIN .07 CFSM .68 IN. 9.26

e Estimated

05590800 LAKE FORK AT ATWOOD, IL

LOCATION.--Lat 39°48'30", long 88°28'34", in NE1/4NW1/4 sec.36, T.16 N., R.6 E., Piatt County, Hydrologic Unit 07140201, on left bank at downstream side of bridge, 0.9 mi northwest of Atwood and at mile 9.0.

DRAINAGE AREA.--149 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 644.58 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--17 years, 148 ft^3/s, 13.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,030 ft^3/s, Mar. 5, 1979, gage height, 14.03 ft; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 29	0815	1,350	10.90	June 4	0815	1,450	11.09
May 26	1145	*2,500	*12.73				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	e35	e100	e35	e62	43	534	224	43	e1.8	23
2	.00	.00	e30	e84	e28	e60	56	355	220	38	e1.7	19
3	.00	.00	e25	e70	e24	e70	501	245	339	30	e1.6	25
4	.00	1.4	e21	e64	e22	e90	764	195	1300	28	e1.5	23
5	.00	1.3	e18	e60	e20	e150	527	176	752	23	e1.6	17
6	.00	.03	e16	e90	e20	e100	359	144	480	20	e1.8	11
7	.00	.00	e14	e140	e20	93	294	117	316	18	e2.0	7.6
8	.00	.33	e12	e250	e21	99	335	108	240	16	e1.5	16
9	.00	10	e11	e150	e21	79	411	142	194	13	e1.0	45
10	.00	40	e10	e120	e22	102	289	193	160	11	e.70	101
11	.00	9.7	e9.8	e100	e23	151	215	168	141	9.9	e.50	58
12	.00	6.5	e9.4	e90	e24	127	178	147	138	8.6	e.38	27
13	.00	5.8	e9.0	e84	e25	103	146	135	131	7.4	e.28	10
14	.00	3.9	e9.2	e76	e26	94	128	115	112	6.6	e.20	5.5
15	.00	3.9	e10	e70	e27	82	121	98	102	5.5	e.15	19
16	.00	38	e8.6	e66	e24	57	104	84	95	e5.0	e.12	42
17	.00	75	e7.6	e64	e23	49	97	75	90	e4.7	e.10	27
18	.00	60	e7.0	e62	e22	47	82	71	87	e4.5	e.00	11
19	.00	e50	e8.0	e60	e30	37	73	136	85	6.8	e.10	3.3
20	.00	e70	e15	e58	e45	50	65	923	82	7.5	e.25	.58
21	.00	e100	e25	e56	e70	108	65	749	78	9.1	e.50	.00
22	.00	e200	e45	e54	e110	105	62	498	76	7.6	e1.0	.00
23	.00	e170	e90	e52	e98	92	138	441	72	e6.5	e2.5	.00
24	.00	e130	e170	e50	e88	83	270	351	67	e5.0	e6.0	.00
25	.00	e110	e120	e50	e78	76	186	697	67	e4.0	e4.5	.00
26	.00	e90	e100	e80	e72	66	143	2230	63	e3.3	e3.8	.00
27	.00	e70	e120	e150	e66	60	174	1590	66	e2.8	e3.5	.00
28	.00	e58	e160	e100	e64	58	473	938	66	e2.5	e4.0	.00
29	.00	e48	e250	e74	---	54	1290	613	54	e2.2	e5.0	.00
30	.00	e40	e180	e56	---	51	926	439	47	e2.0	e6.5	.00
31	.00	---	e130	e45	---	50	---	305	---	e1.9	11	---
TOTAL	0.00	1391.86	1675.6	2625	1148	2505	8515	13012	5944	353.4	65.58	490.98
MEAN	.00	46.4	54.1	84.7	41.0	80.8	284	420	198	11.4	2.12	16.4
MAX	.00	200	250	250	110	151	1290	2230	1300	43	11	101
MIN	.00	.00	7.0	45	20	37	43	71	47	1.9	.00	.00
CFSM	.00	.31	.36	.57	.28	.54	1.90	2.82	1.33	.08	.01	.11
IN.	.00	.35	.42	.66	.29	.63	2.13	3.25	1.48	.09	.02	.12

CAL YR 1988 TOTAL 23239.02 MEAN 63.5 MAX 688 MIN .00 CFSM .43 IN. 5.80
WTR YR 1989 TOTAL 37726.42 MEAN 103 MAX 2230 MIN .00 CFSM .69 IN. 9.42

e Estimated

05591200 KASKASKIA RIVER AT COOKS MILLS, IL

LOCATION.--Lat 39°35'01", long 88°24'50", in NW1/4SW1/4 sec.10, T.13 N., R.7 E., Coles County, Hydrologic Unit 07140201, on right bank 200 ft upstream of bridge in Cooks Mills, 3.8 mi downstream from Flat Branch and at mile 238.1.

DRAINAGE AREA.--473 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 617.40 ft above National Geodetic Vertical Datum of 1929. Prior to July 30, 1981, at site 200 ft downstream at same datum.

REMARKS.--Water-discharge records good except those for estimated daily discharge, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 448 ft^3/s, 12.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,250 ft^3/s, Feb. 23, 1985, gage height, 16.72 ft; no flow Sept. 11, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 6	0345	2,160	10.82	May 28	0230	*4,930	*13.89
May 1	0130	2,830	11.69				

Minimum daily discharge, 0.85 ft^3/s, Oct. 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	34	57	374	e180	201	279	2740	1210	127	14	99
2	20	36	53	285	e130	184	303	2180	997	99	14	144
3	23	35	47	227	e100	178	671	1600	811	90	13	199
4	24	36	44	193	e74	206	1200	1140	691	87	10	145
5	17	35	e39	172	e60	290	1940	891	775	80	8.9	79
6	14	51	e34	237	e60	401	2100	726	1190	70	17	54
7	13	55	e30	463	e61	343	1740	607	1190	60	18	42
8	12	41	e27	700	e62	281	1430	507	902	55	13	35
9	9.6	38	e24	843	e64	325	1300	475	660	54	10	183
10	8.2	64	e22	832	e66	325	1250	499	503	50	8.4	414
11	6.6	100	e21	677	e68	560	1160	566	420	42	6.5	440
12	3.9	103	e20	508	e70	818	1000	580	370	36	7.7	351
13	1.9	58	e20	406	e72	851	839	533	342	31	18	199
14	1.2	30	e21	344	e74	745	697	477	319	28	17	165
15	.85	23	e25	303	e76	606	588	426	292	28	15	252
16	1.8	20	e21	272	e80	490	532	383	262	26	14	265
17	10	56	e19	242	e76	400	488	349	242	23	13	231
18	25	192	e18	222	e72	345	444	320	225	22	13	163
19	19	144	e20	208	e70	316	406	342	214	20	13	102
20	20	219	e28	194	e100	340	366	842	204	18	12	65
21	21	320	e40	175	219	503	335	1050	194	30	13	50
22	15	419	52	156	308	603	320	1550	185	53	29	40
23	20	409	70	147	324	603	473	1900	177	48	41	32
24	26	268	260	143	254	529	695	1640	213	40	42	26
25	30	166	471	143	225	456	803	1380	322	33	44	23
26	40	119	450	181	231	402	794	2660	249	25	43	20
27	38	95	361	303	234	358	972	4330	217	20	33	17
28	32	82	422	364	219	329	992	4740	253	17	35	14
29	31	72	533	336	---	312	1440	3700	241	19	81	13
30	29	63	576	302	---	299	2380	2560	181	14	74	14
31	29	---	482	277	---	290	---	1760	---	14	102	---
TOTAL	558.05	3383	4307	10229	3629	12889	27937	43453	14051	1359	792.5	3876
MEAN	18.0	113	139	330	130	416	931	1402	468	43.8	25.6	129
MAX	40	419	576	843	324	851	2380	4740	1210	127	102	440
MIN	.85	20	18	143	60	178	279	320	177	14	6.5	13
CFSM	.04	.24	.29	.70	.27	.88	1.97	2.96	.99	.09	.05	.27
IN.	.04	.27	.34	.80	.29	1.01	2.20	3.42	1.11	.11	.06	.30

CAL YR 1988 TOTAL 90591.08 MEAN 248 MAX 2130 MIN .00 CFSM .52 IN. 7.12
WTR YR 1989 TOTAL 126463.55 MEAN 346 MAX 4740 MIN .85 CFSM .73 IN. 9.95

e Estimated

KASKASKIA RIVER BASIN

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1983 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.05	2.90	2.54	5.12	4.19	3.69	4.33	11.69	9.24	3.33	1.81	2.85
2	2.15	2.94	2.49	4.44	4.02	3.52	4.17	11.01	8.61	3.07	1.81	3.37
3	2.19	2.92	2.41	3.95	3.77	3.45	6.47	10.07	7.76	2.95	1.80	3.94
4	2.23	2.92	2.33	3.62	3.48	3.63	8.73	9.08	7.03	2.90	1.75	3.60
5	2.14	2.93	2.34	3.40	2.66	4.19	10.36	8.15	7.07	2.83	1.69	2.87
6	2.13	3.04	2.36	3.72	3.80	5.19	10.82	7.32	8.97	2.71	1.85	2.50
7	2.15	3.21	2.37	5.28	3.51	4.92	10.29	6.64	9.21	2.58	1.94	2.32
8	2.17	3.03	2.41	6.90	3.39	4.36	9.65	5.99	8.26	2.50	1.81	2.18
9	2.16	2.85	2.38	7.76	3.28	4.65	9.35	5.69	7.02	2.49	1.74	3.23
10	2.17	3.40	2.36	7.85	3.08	4.55	9.24	5.77	5.88	2.44	1.70	5.39
11	2.18	3.58	2.21	7.11	3.01	5.79	9.10	6.22	5.25	2.32	1.62	5.71
12	2.15	3.73	2.28	6.04	3.03	7.60	8.62	6.40	4.87	2.23	1.65	5.36
13	2.12	3.28	2.27	5.31	3.07	7.91	7.90	6.14	4.60	2.15	1.89	4.28
14	2.09	2.88	2.29	4.84	3.11	7.42	7.16	5.76	4.46	2.09	1.90	3.70
15	2.13	2.76	2.31	4.52	3.11	6.65	6.49	5.42	4.27	2.08	1.83	4.53
16	2.24	2.73	2.20	4.31	3.20	5.90	6.09	5.11	3.99	2.05	1.81	4.61
17	2.40	2.62	2.32	4.04	3.16	5.27	5.84	4.86	3.83	2.02	1.81	4.46
18	2.82	4.41	2.25	3.88	3.10	4.83	5.51	4.65	3.70	1.98	1.78	3.92
19	2.70	4.16	2.21	3.75	3.04	4.60	5.27	4.48	3.59	1.93	1.79	3.38
20	2.68	4.03	2.29	3.62	3.16	4.48	4.99	7.74	3.50	1.91	1.77	2.98
21	2.76	4.96	2.32	3.46	3.65	5.74	4.73	8.47	3.44	1.95	1.80	2.75
22	2.62	5.48	2.34	3.28	4.46	6.45	4.62	9.63	3.33	2.47	1.94	2.60
23	2.70	5.56	2.45	3.17	4.73	6.56	5.30	10.47	3.27	2.42	2.31	2.47
24	2.80	4.61	3.81	3.15	4.31	6.12	6.90	10.08	3.24	2.29	2.26	2.37
25	2.84	3.74	5.64	3.12	3.84	5.63	7.59	9.51	4.63	2.20	2.32	2.30
26	2.99	3.28	5.68	3.37	3.90	5.24	7.62	11.22	4.43	2.06	2.34	2.24
27	2.98	3.01	4.80	4.41	3.96	4.93	8.38	13.12	4.10	1.95	2.18	2.19
28	2.89	2.85	5.19	4.95	3.85	4.69	8.47	13.87	4.32	1.87	2.11	2.14
29	2.87	2.73	6.00	4.78	---	4.58	9.54	12.90	4.33	1.92	2.73	2.11
30	2.83	2.62	6.56	4.52	---	4.48	10.90	11.56	3.87	1.84	2.76	2.11
31	2.83	---	5.85	4.31	---	4.41	---	10.35	---	1.81	3.06	---
MEAN	2.46	3.44	3.14	4.58	3.53	5.21	7.48	8.37	5.34	2.30	1.99	3.29
MAX	2.99	5.56	6.56	7.85	4.73	7.91	10.90	13.87	9.24	3.33	3.06	5.71
MIN	2.05	2.62	2.20	3.12	2.66	3.45	4.17	4.48	3.24	1.81	1.62	2.11

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year. Additional chemical data for water years 1961-68, 1971-72 are published in Water-Resources Investigations 78-24 and 79-25 as site O 02.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: January 1979 to current year.

REMARKS.--Suspended-sediment samples were collected by a local observer once weekly with additional samples collected during high runoff periods.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,710 mg/L, May 1, 1983; minimum daily mean, 0 mg/L, Sept. 10, 11, 1988.
SEDIMENT LOADS: Maximum daily, 26,100 tons, Apr. 13, 1979; minimum daily, 0 ton, Sept. 10, 11, 1988.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 632 mg/L, May 27; minimum daily mean, 7 mg/L, Jan. 15, Feb. 27.
SEDIMENT LOADS: Maximum daily, 7,660 tons, May 27; minimum daily, 0.09 ton, Oct. 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
27...	1230	17002	17002	38	849	7.00	8.0	5.9	10.2	24	120
DEC											
06...	1200	17002	17002	34	824	7.60	3.0	4.3	13.0	10	K20
JAN											
09...	1200	17002	17002	847	532	7.70	2.0	49	13.3	12	290
FEB											
09...	1230	17002	17002	64	812	8.30	0.0	0.20	14.8	11	K20
MAR											
21...	1200	17002	17002	508	653	8.10	4.5	23	12.4	12	560
MAY											
01...	1200	17002	17002	2800	450	7.80	15.5	55	8.5	19	K700
JUN											
01...	1200	17002	17002	1180	604	7.50	23.0	13	6.4	16	K200
JUL											
19...	1200	17002	17002	20	742	7.70	23.5	35	6.7	21	K450
AUG											
23...	1200	17002	17002	41	1030	7.50	23.0	65	5.5	27	2800

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
OCT											
27...	300	150	74	74	28	28	67	66	5.5	5.3	150
DEC											
06...	370	140	89	88	36	36	41	41	2.9	2.8	230
JAN											
09...	230	100	56	54	25	23	11	10	1.6	1.3	126
FEB											
09...	360	180	90	88	36	35	29	29	1.2	1.2	189
MAR											
21...	290	130	76	68	31	28	16	14	1.2	0.99	160
MAY											
01...	200	88	50	48	21	19	5.0	4.7	2.5	1.7	110
JUN											
01...	290	120	71	70	29	28	7.1	7.0	1.4	0.41	173
JUL											
19...	330	110	76	74	35	34	28	28	1.5	1.6	213
AUG											
23...	240	110	54	54	25	25	39	40	4.7	3.5	127

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
OCT 27...	240	41	0.4	545	12	4	0.220	<0.100	<0.001	--	1.4
DEC 06...	130	--	0.3	--	4	2	6.00	0.150	<0.001	0.75	0.90
JAN 09...	39	32	0.2	235	45	7	12.0	0.110	<0.001	1.2	1.3
FEB 09...	140	46	0.3	450	2	1	11.0	<0.100	<0.002	--	0.50
MAR 21...	94	39	0.2	340	31	4	13.0	0.140	0.002	0.46	0.60
MAY 01...	30	20	0.3	190	49	7	13.0	0.190	0.004	1.0	1.2
JUN 01...	37	24	0.3	272	51	7	16.0	<0.100	<0.002	--	0.70
JUL 19...	100	46	0.3	413	8	3	3.70	<0.100	<0.003	--	1.4
AUG 23...	130	36	0.3	368	98	14	0.530	0.300	0.005	0.20	0.50

DATE	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)
OCT 27...	1.6	0.540	0.530	390	<50	7	90	82	<0.5	<0.5	580
DEC 06...	6.9	0.290	0.260	210	<50	2	70	65	<0.5	<0.5	230
JAN 09...	13	0.260	0.190	2300	50	1	70	49	<0.5	<0.5	<50
FEB 09...	11	0.080	0.060	110	<50	<1	40	36	<0.5	<0.5	150
MAR 21...	14	0.130	0.070	750	170	1	10	<5	<0.5	<0.5	70
MAY 01...	14	0.300	0.180	2500	100	<1	70	42	<1.0	<0.5	<50
JUN 01...	17	0.200	0.130	3400	1300	1	90	65	<1.0	<0.5	<50
JUL 19...	5.1	0.230	0.150	1900	300	3	90	71	<0.5	<0.5	180
AUG 23...	1.0	0.500	0.190	2600	<50	3	90	65	<0.5	<0.5	330

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
OCT										
27...	580	<3	<3	<5	<5	<5	<5	<5	<5	530
DEC										
06...	230	<3	<3	<5	<5	<5	<5	<5	<5	110
JAN										
09...	<50	<3	<3	<5	<5	<5	<5	<5	<5	2400
FEB										
09...	--	<3	<3	<5	<5	<5	<5	<5	<5	80
MAR										
21...	60	<3	<3	<5	<5	<10	<10	<5	<5	800
MAY										
01...	<50	--	--	6	6	<5	<5	<5	<5	2600
JUN										
01...	<50	<3	<3	8	<5	<5	<5	7	<5	2200
JUL										
19...	180	<3	<3	6	<5	<5	<5	<5	<5	2200
AUG										
23...	320	<3	<3	<5	<5	<5	<5	<5	<5	3000

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)
OCT										
27...	<50	<5	<5	65	46	<0.05	<10	<10	<3	<3.0
DEC										
06...	<50	<5	<5	58	54	<0.05	7	7	<3	<3.0
JAN										
09...	<50	<5	<5	51	10	<0.05	<5	<5	<3	<3.0
FEB										
09...	<50	<5	<5	31	27	<0.05	<5	<5	<3	<3.0
MAR										
21...	93	<5	<5	38	17	<0.05	<5	<5	<3	<3.0
MAY										
01...	56	<5	<5	44	<5	<0.05	<5	7	<3	<3.0
JUN										
01...	<50	<5	<5	50	6	<0.05	<5	<5	<3	<3.0
JUL										
19...	<50	<5	<5	110	15	<0.05	<5	<5	<3	<3.0
AUG										
23...	<50	<5	<5	200	78	<0.05	19	<10	<3	<3.0

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT 27...	250	250	130	--	<50	<50	11	<0.005	<5	<1
DEC 06...	190	190	<5	<5	<50	<50	5.9	<0.005	<5	2
JAN 09...	120	120	<5	<5	<50	<50	6.7	<0.005	<5	1
FEB 09...	180	180	<5	<5	<50	<50	4.7	<0.005	10	1
MAR 21...	130	110	<10	<10	<50	<50	4.3	<0.005	<5	<1
MAY 01...	90	88	14	<5	<50	<50	7.2	<0.005	<5	1
JUN 01...	130	130	6	<5	<50	<50	4.2	0.005	<5	2
JUL 19...	160	160	6	<5	<50	<50	6.9	<0.005	<5	--
AUG 23...	140	--	6	<5	<50	<50	11	<0.005	10	1

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	16	55	2.4	34	22	1.9	57	13	2.0
2	20	48	2.6	36	25	2.2	53	10	1.5
3	23	39	2.4	35	29	2.5	47	9	1.2
4	24	35	2.2	36	33	2.8	44	8	1.0
5	17	37	1.7	35	37	3.0	e39	8	.85
6	14	37	1.4	51	59	4.5	e34	9	.81
7	13	37	1.3	55	33	2.6	e30	10	.79
8	12	39	1.2	41	41	3.2	e27	11	.77
9	9.6	42	1.1	38	74	6.3	e24	12	.75
10	8.2	38	.84	64	112	11	e22	13	.76
11	6.6	38	.68	100	251	25	e21	14	.79
12	3.9	40	.42	103	201	20	e20	14	.76
13	1.9	40	.21	58	180	17	e20	14	.76
14	1.2	40	.13	30	165	16	e21	14	.80
15	.85	41	.09	23	151	22	e25	14	.95
16	1.8	42	.20	20	146	16	e21	14	.79
17	10	41	1.2	56	252	41	e19	14	.72
18	25	36	2.1	192	336	94	e18	14	.68
19	19	34	2.0	144	261	39	e20	17	.90
20	20	30	1.3	219	350	28	e28	21	1.6
21	21	28	1.8	320	378	54	e40	25	2.8
22	15	24	1.6	419	405	267	52	31	3.9
23	20	25	.97	409	289	186	70	83	11
24	26	24	1.4	268	239	191	260	391	57
25	30	22	1.6	166	175	196	471	129	20
26	40	21	2.4	119	119	104	450	30	4.9
27	38	20	2.1	95	71	29	361	115	19
28	32	19	2.0	82	45	12	422	474	80
29	31	19	1.7	72	29	6.4	533	276	51
30	29	18	1.6	63	19	3.6	576	156	30
31	29	20	1.7	---	---	---	482	64	16
TOTAL	558.05	---	44.34	3383	---	1407.0	4307	---	314.78

e Estimated

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	374	16	16	e180	25	12	201	10	5.4
2	285	11	14	e130	27	9.3	184	12	5.8
3	227	13	13	e100	29	7.8	178	14	6.7
4	193	14	19	e74	31	6.2	206	16	9.2
5	172	57	81	e60	33	5.4	290	21	17
6	237	248	286	e60	32	5.1	401	58	62
7	463	116	91	e61	28	4.7	343	22	21
8	700	58	34	e62	26	4.3	281	43	33
9	843	40	19	e64	23	4.0	325	39	34
10	832	30	22	e66	21	3.7	325	55	48
11	677	22	38	e68	19	3.4	560	190	279
12	508	17	38	e70	17	3.2	818	43	92
13	406	13	26	e72	15	3.0	851	21	47
14	344	10	14	e74	14	2.8	745	22	44
15	303	7	7.7	e76	13	2.6	606	23	38
16	272	8	7.0	e80	12	2.5	490	25	33
17	242	11	7.7	e76	11	2.2	400	27	29
18	222	14	8.6	e72	10	1.9	345	28	26
19	208	17	9.6	e70	10	1.8	316	31	26
20	194	14	7.4	e100	20	5.5	340	66	65
21	175	11	5.1	219	50	31	503	79	103
22	156	8	3.6	308	144	122	603	31	50
23	147	11	4.4	324	131	115	603	32	52
24	143	17	6.6	254	41	29	529	33	47
25	143	26	10	225	19	12	456	34	42
26	181	43	21	231	8	5.0	402	35	38
27	303	246	213	234	7	4.5	358	38	37
28	364	109	107	219	8	5.0	329	41	37
29	336	29	26	---	---	---	312	45	38
30	302	21	17	---	---	---	299	47	38
31	277	23	17	---	---	---	290	41	32
TOTAL	10229	---	1189.7	3629	---	414.9	12889	---	1436.1

e Estimated

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	279	33	25	2740	135	1000	1210	81	263
2	303	82	85	2180	54	333	997	85	228
3	671	360	623	1600	28	120	811	81	176
4	1200	139	434	1140	31	96	691	82	154
5	1940	68	351	891	42	101	775	339	736
6	2100	40	227	726	57	112	1190	263	822
7	1740	30	142	607	78	127	1190	123	396
8	1430	23	89	507	106	144	902	130	317
9	1300	18	62	475	144	185	660	129	230
10	1250	18	62	499	196	264	503	129	175
11	1160	21	67	566	232	355	420	128	145
12	1000	24	66	580	128	201	370	127	127
13	839	28	64	533	83	120	342	126	117
14	697	32	61	477	71	92	319	125	108
15	588	37	59	426	70	81	292	125	98
16	532	43	62	383	69	71	262	124	88
17	488	51	68	349	61	58	242	123	80
18	444	62	74	320	61	53	225	122	74
19	406	75	82	342	105	102	214	124	71
20	366	90	89	842	91	202	204	126	70
21	335	109	99	1050	128	369	194	128	67
22	320	132	114	1550	76	300	185	123	61
23	473	176	220	1900	41	212	177	117	56
24	695	207	390	1640	30	131	213	111	64
25	803	256	555	1380	50	187	322	106	92
26	794	287	615	2660	588	4260	249	103	69
27	972	385	1010	4330	632	7660	217	102	60
28	992	353	946	4740	562	7260	253	101	69
29	1440	309	1150	3700	154	1600	241	100	65
30	2380	178	1160	2560	63	442	181	99	48
31	---	---	---	1760	63	299	---	---	---
TOTAL	27937	---	9051	43453	---	26537	14051	---	5126

KASKASKIA RIVER BASIN

05591200 KASKASKIA RIVER AT COOKS MILLS, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	127	98	34	14	78	2.9	99	63	17
2	99	97	26	14	81	2.9	144	69	27
3	90	92	22	13	84	2.9	199	76	41
4	87	84	20	10	87	2.4	145	85	33
5	80	77	17	8.9	90	2.1	79	95	20
6	70	71	13	17	91	4.1	54	106	15
7	60	65	11	18	89	4.4	42	118	13
8	55	60	8.8	13	86	3.0	35	132	13
9	54	55	8.0	10	83	2.3	183	230	118
10	50	53	7.2	8.4	81	1.8	414	271	299
11	42	53	6.1	6.5	78	1.4	440	140	167
12	36	53	5.2	7.7	76	1.6	351	99	94
13	31	53	4.5	18	74	3.5	199	91	49
14	28	54	4.1	17	69	3.1	165	137	64
15	28	54	4.0	15	63	2.5	252	137	93
16	26	54	3.7	14	58	2.2	265	113	81
17	23	55	3.4	13	54	2.0	231	99	62
18	22	56	3.3	13	50	1.7	163	91	40
19	20	58	3.1	13	46	1.6	102	85	23
20	18	59	2.9	12	42	1.4	65	79	14
21	30	61	4.9	13	41	1.5	50	74	9.9
22	53	62	8.9	29	41	3.1	40	69	7.4
23	48	64	8.2	41	41	4.5	32	64	5.6
24	40	66	7.1	42	40	4.5	26	60	4.3
25	33	67	6.1	44	40	4.7	23	57	3.5
26	25	69	4.7	43	40	4.6	20	55	2.9
27	20	71	3.7	33	40	3.5	17	53	2.4
28	17	72	3.3	35	42	4.1	14	51	2.0
29	19	73	3.6	81	47	10	13	49	1.7
30	14	73	2.8	74	51	10	14	47	1.8
31	14	75	2.8	102	57	16	---	---	---
TOTAL	1359	---	263.4	792.5	---	116.3	3876	---	1324.5
YEAR	126463.55		47225.02						

05591500 ASA CREEK AT SULLIVAN, IL

LOCATION.--Lat 39°37'11", long 88°36'17", in NE1/4NE1/4 sec.35, T.14 N., R.5 E., Moultrie County, Hydrologic Unit 07140201, on right bank at upstream side of county highway bridge, 0.4 mi upstream from Chicago & Eastern Illinois Railroad, 0.8 mi north of Sullivan, and at mile 5.3.

DRAINAGE AREA.--8.05 mi².

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
01...	0930	17002	17002	0.10	904	7.30	8.0	5.9	10.4	40	<50
DEC											
12...	0930	17002	17002	20	881	7.30	2.0	28	11.4	11	K40
JAN											
23...	1000	17002	17002	2.5	660	7.70	4.0	4.2	14.4	2	K6
FEB											
28...	1000	17002	17002	5.4	679	8.30	4.0	1.2	14.8	4	74
MAR											
30...	0900	17002	17002	14	691	7.90	10.0	1.0	11.5	11	110
MAY											
16...	1100	17002	17002	11	607	8.20	16.5	2.8	15.1	8	K25
JUN											
19...	0930	17002	17002	3.4	737	7.50	20.5	1.7	7.6	10	760
JUL											
27...	0900	17002	17002	0.10	752	7.50	25.0	14	5.1	12	K2400
SEP											
05...	0930	17002	17002	0.0	729	7.00	21.0	6.9	4.3	31	2800

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
NOV											
01...	440	440	89	87	54	53	41	40	6.6	6.4	13
DEC											
12...	400	410	99	96	40	40	9.5	--	1.8	1.8	49
JAN											
23...	310	310	76	72	34	32	6.0	5.7	0.3	0.30	14
FEB											
28...	340	340	81	77	36	35	5.8	5.8	0.4	0.30	17
MAR											
30...	350	350	80	80	36	36	5.3	5.3	0.3	0.30	2
MAY											
16...	350	360	82	81	37	37	5.1	5.1	0.3	0.30	14
JUN											
19...	360	370	90	85	39	37	6.1	5.9	0.3	0.30	6
JUL											
27...	410	410	86	88	45	46	7.4	7.6	0.3	<0.30	8
SEP											
05...	360	360	78	74	44	43	16	16	5.2	5.3	15

05591500 ASA CREEK AT SULLIVAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV											
01...	2	0.100	0.180	<0.001	1.9	2.1	2.2	0.110	0.050	610	<50
DEC											
12...	6	12.0	0.140	<0.001	0.76	0.90	13	0.058	0.040	1100	590
JAN											
23...	2	17.0	<0.100	<0.001	--	<0.10	--	0.020	<0.010	320	80
FEB											
28...	2	18.0	<0.100	<0.002	--	0.50	18	0.020	<0.010	320	50
MAR											
30...	1	18.0	<0.100	<0.002	--	0.30	18	0.005	<0.010	180	110
MAY											
16...	2	19.0	<0.100	<0.005	--	0.50	19	0.020	<0.010	420	130
JUN											
19...	2	18.0	<0.100	<0.001	--	1.4	19	0.060	0.020	2400	1500
JUL											
27...	2	1.10	<0.100	<0.002	--	0.85	1.9	0.040	0.020	170	120
SEP											
05...	4	<0.100	0.300	0.001	0.90	1.2	--	0.180	0.090	300	70

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)
NOV										
01...	100	94	<0.5	<0.5	120	120	<3	<3	<5	<5
DEC										
12...	100	--	<2.0	<2	<50	<50	<3	<3	8	--
JAN										
23...	60	56	<0.5	<0.5	<50	<50	<3	<3	<5	5
FEB										
28...	60	52	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR										
30...	70	64	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAY										
16...	50	50	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JUN										
19...	90	81	<0.5	<0.5	<50	<50	<3	<3	7	<5
JUL										
27...	100	100	<0.5	<0.5	<50	<50	<3	<3	<5	<5
SEP										
05...	80	77	<0.5	<0.5	70	70	<3	<3	<5	<5

05591500 ASA CREEK AT SULLIVAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
NOV										
01...	<5	<5	<5	<5	1000	160	<5	<5	120	96
DEC										
12...	<5	--	<5	--	1300	510	<5	<5	55	--
JAN										
23...	<5	<5	<5	<5	300	<50	<5	<5	9	<5
FEB										
28...	<5	<5	<5	<5	320	<50	<5	<5	9	<5
MAR										
30...	<5	<5	<5	<5	70	<50	<5	<5	<5	<5
MAY										
16...	<5	<5	<5	<5	310	<50	<5	<5	14	9
JUN										
19...	<5	<5	<5	<5	1000	<50	<5	<5	33	20
JUL										
27...	<5	<5	<5	<5	230	<50	<5	<5	77	77
SEP										
05...	<5	<5	<5	<5	890	57	<5	<5	330	290

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
NOV										
01...	<5	<5	<3	<3.0	310	300	<10	<10	160	<50
DEC										
12...	7	--	<3	<3.0	250	230	6	--	<50	<50
JAN										
23...	5	--	<5	<5.0	190	180	<5	<5	<50	<50
FEB										
28...	<5	<5	<3	<3.0	200	190	<5	<5	<50	<50
MAR										
30...	<5	<5	<3	<3.0	220	220	<5	<5	<50	<50
MAY										
16...	<5	<5	<3	<3.0	210	210	<5	<5	<50	<50
JUN										
19...	<5	<5	<3	<3.0	210	200	5	<5	<50	<50
JUL										
27...	<5	<5	<3	<3.0	260	--	<5	<5	<50	<50
SEP										
05...	<5	<5	<3	<3.0	270	260	<5	<5	<50	<50

05591550 WHITLEY CREEK NEAR ALLENVILLE, IL

LOCATION.--Lat 39°30'24", long 88°31'39", in SE1/4SE1/4 sec.4, T.12 N., R.6 E., Moultrie County, Hydrologic Unit 07140201, on left downstream side of bridge on county road, 3.2 miles south of Allenville and at mile 5.8.

DRAINAGE AREA.--34.6 mi^2.

PERIOD OF RECORD.--February 1980 to current year. Gage-height record for January 1963 to February 1980 available in files of U.S. Army Corps of Engineers.

REVISED RECORDS.--WDR IL-81-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 617.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years (water years 1981-89), 30.1 ft^3/s, 11.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 936 ft^3/s, June 1, 1980, gage height, 11.77 ft; no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1971 reached a stage of 13.67 ft, discharge not determined, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 29	0600	*833	*11.38	May 26	0715	494	9.44

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	3.3	26	e13	14	24	141	48	12	.69	4.9
2	.00	.00	3.0	22	e9.5	13	40	100	50	11	.65	2.4
3	.00	.00	2.9	20	e7.0	15	176	76	45	e10	.57	1.5
4	.00	.00	2.7	21	e5.8	19	197	66	42	e9.2	.47	1.4
5	.00	.00	e2.2	24	e5.0	e15	105	59	37	e8.6	.39	1.0
6	.00	.00	e2.0	65	e5.0	e14	77	49	33	e8.3	3.5	.81
7	.00	.00	e1.8	88	e5.0	e12	62	44	31	7.4	.68	.65
8	.00	.00	e1.7	65	e5.0	e13	77	42	29	6.7	.54	1.0
9	.00	.63	e1.6	62	e5.0	e15	76	93	28	6.1	.50	21
10	.00	20	e1.5	51	e5.2	24	58	75	25	5.5	.44	13
11	.00	5.0	e1.4	20	e5.4	92	49	55	24	4.9	.38	9.3
12	.00	4.5	e1.3	19	e5.6	105	43	48	25	4.3	.35	5.2
13	.00	3.9	e1.2	16	e5.8	71	35	44	24	4.0	.31	3.1
14	.00	2.9	e1.1	15	e6.0	57	32	38	22	3.6	.27	31
15	.00	2.3	e1.0	15	e5.8	43	30	34	21	3.2	.51	40
16	.00	e2.5	e1.0	12	e5.7	31	25	33	18	2.9	.52	23
17	.00	e3.0	e1.0	11	e5.6	30	24	30	17	2.5	.41	12
18	.00	e2.6	e1.1	11	e5.5	26	22	30	17	2.2	.33	6.8
19	.00	e2.3	e1.2	10	e5.5	22	22	67	16	2.6	.30	4.5
20	.00	26	1.3	8.7	20	57	20	157	16	3.0	.40	3.2
21	.00	24	1.3	7.9	38	111	20	83	15	3.2	.38	2.5
22	.00	11	1.4	8.5	34	69	19	67	14	3.6	.44	2.1
23	.00	5.8	1.9	7.6	29	54	45	90	14	3.0	.62	1.8
24	.00	4.6	2.3	7.2	27	45	93	70	13	2.5	.64	1.6
25	.00	4.4	2.4	9.3	22	38	58	124	12	2.1	.97	1.4
26	.00	4.2	2.4	34	21	32	42	382	12	1.8	1.2	1.2
27	.00	4.3	30	36	18	29	220	147	14	1.6	.92	1.1
28	.00	4.0	69	26	16	28	135	92	13	1.4	10	1.0
29	.00	3.7	59	22	---	25	530	72	12	1.1	4.5	.97
30	.00	3.5	40	20	---	25	234	60	12	.88	1.4	1.0
31	.00	---	32	18	---	26	---	50	---	.77	1.6	---
TOTAL	0.00	145.13	276.0	778.2	341.4	1170	2590	2518	699	139.95	34.88	200.43
MEAN	.00	4.84	8.90	25.1	12.2	37.7	86.3	81.2	23.3	4.51	1.13	6.68
MAX	.00	26	69	88	38	111	530	382	50	12	10	40
MIN	.00	.00	1.0	7.2	5.0	12	19	30	12	.77	.27	.65
CFSM	.00	.14	.26	.73	.35	1.09	2.50	2.35	.67	.13	.03	.19
IN.	.00	.16	.30	.84	.37	1.26	2.78	2.71	.75	.15	.04	.22

CAL YR 1988 TOTAL 7979.83 MEAN 21.8 MAX 364 MIN .00 CFSM .63 IN. 8.58
WTR YR 1989 TOTAL 8892.99 MEAN 24.4 MAX 530 MIN .00 CFSM .70 IN. 9.56

e Estimated

05591550 WHITLEY CREEK NEAR ALLENVILLE, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.60	1.60	2.51	2.94	3.49	3.28	3.80	5.89	3.78	2.80	2.42	2.56
2	1.60	1.60	2.49	2.82	3.32	3.17	3.80	5.11	3.94	2.79	2.42	2.63
3	1.60	1.60	2.47	2.74	3.29	3.31	6.41	4.61	3.74	---	2.40	2.53
4	1.60	1.60	2.45	2.66	3.10	3.53	6.84	4.33	3.73	---	2.38	2.54
5	1.60	1.60	2.43	2.72	3.11	3.48	5.44	4.24	3.62	---	2.36	2.49
6	1.60	1.60	2.42	3.79	3.25	3.22	4.92	4.00	3.51	---	2.73	2.45
7	1.60	1.60	2.40	4.26	3.15	3.23	4.62	3.86	3.44	2.63	2.42	2.42
8	1.60	1.60	2.38	4.38	3.15	3.49	4.73	3.79	3.39	2.60	2.39	2.39
9	1.60	1.60	2.35	3.83	3.01	3.41	4.93	4.74	3.36	2.59	2.38	3.69
10	1.60	3.78	2.33	3.60	3.14	3.53	4.55	4.62	3.25	2.56	2.37	3.15
11	1.60	2.67	2.31	3.62	3.28	4.98	4.38	4.15	3.22	2.53	2.35	3.06
12	1.60	2.63	2.29	3.58	3.21	5.48	4.26	3.98	3.27	2.51	2.35	2.85
13	1.60	2.59	2.28	3.39	3.25	4.81	4.09	3.87	3.25	2.50	2.34	2.70
14	1.60	2.48	2.28	3.27	3.29	4.51	4.00	3.71	3.16	2.49	2.32	3.88
15	1.60	2.40	2.27	3.35	3.29	4.29	3.97	3.62	3.14	2.47	2.40	3.96
16	1.60	---	2.26	3.20	3.52	3.98	3.84	3.58	3.05	2.47	2.39	3.51
17	1.60	---	2.26	3.14	3.49	3.93	3.77	3.52	3.02	2.45	2.36	3.17
18	1.60	---	2.25	3.13	3.41	3.89	3.69	3.49	2.99	2.43	2.34	2.94
19	1.60	---	2.24	3.05	3.56	3.67	3.70	3.55	2.98	2.48	2.32	2.80
20	1.60	2.64	2.24	2.98	3.52	3.80	3.59	6.48	2.96	2.51	2.36	2.70
21	1.60	3.79	2.24	2.84	4.11	5.61	3.59	4.82	2.93	2.54	2.36	2.64
22	1.60	3.19	2.24	2.85	4.07	4.78	3.54	4.29	2.90	2.60	2.35	2.60
23	1.60	2.77	2.33	2.89	3.57	4.48	3.61	5.04	2.86	2.56	2.41	2.57
24	1.60	2.65	2.39	2.87	3.83	4.30	5.30	4.48	2.89	2.54	2.40	2.56
25	1.60	2.63	2.41	2.83	3.58	4.17	4.59	4.75	2.82	2.52	2.46	2.53
26	1.60	2.61	2.41	3.95	3.67	4.02	4.24	9.42	2.81	2.50	2.50	2.51
27	1.60	2.62	2.42	4.11	3.45	3.94	7.84	5.97	2.93	2.50	2.47	2.49
28	1.60	2.59	4.02	3.87	3.37	3.87	5.77	4.88	2.86	2.48	2.43	2.47
29	1.60	2.56	3.97	3.72	---	3.85	11.00	4.44	2.81	2.46	2.75	2.47
30	1.60	2.54	3.19	3.61	---	3.82	7.23	4.16	2.80	2.44	2.51	2.46
31	1.60	---	3.02	3.52	---	3.85	---	3.95	---	2.43	2.55	---
MEAN	1.60	---	2.50	3.34	3.41	3.99	4.87	4.56	3.18	---	2.42	2.79
MAX	1.60	---	4.02	4.38	4.11	5.61	11.00	9.42	3.94	---	2.75	3.96
MIN	1.60	---	2.24	2.66	3.01	3.17	3.54	3.49	2.80	---	2.32	2.39

KASKASKIA RIVER BASIN

05591700 WEST OKAW RIVER NEAR LOVINGTON, IL

LOCATION.--Lat 39°43'52", long 88°39'43", in NW1/4SW1/4 sec.21, T.15 N., R.5 E., Moultrie County, Hydrologic Unit 07140201, on left downstream side of bridge on State Highways 32 and 133, 1.5 mi northwest of Lovington, 1.7 mi upstream from Stringtown Branch, and at mile 25.4.

DRAINAGE AREA.--112 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1980 to current year. Gage-height record for January 1963 to February 1980 available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 632.50 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years (water years 1981-89), 118 ft^3/s, 14.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,300 ft^3/s, May 2, 1983, gage height, 15.07 ft, from rating extended above 1,230 ft^3/s on basis of slope-conveyance study; no flow for many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 1968 reached a stage of 14.66 ft, discharge not determined, from information by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 29	1030	1,770	10.55	June 4	0745	969	8.85
May 26	0400	*3,340	*12.84				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	4.2	72	e50	41	64	593	220	33	.12	5.7
2	.00	.00	3.3	54	e30	39	72	428	187	30	.11	8.3
3	.00	.00	3.2	48	e20	49	430	310	184	e25	.09	.78
4	.00	.01	2.8	39	e15	119	585	245	749	e20	.08	.67
5	.00	.01	2.4	43	e15	116	443	218	406	e18	.06	.73
6	.00	.00	2.5	125	e15	81	324	177	245	e16	.04	.68
7	.00	.00	2.2	223	e15	104	247	150	182	e13	.01	.55
8	.00	.00	2.0	276	e15	102	265	138	152	e11	.00	5.8
9	.00	.15	1.8	134	e15	71	331	175	133	10	.00	124
10	.00	20	1.8	91	e16	107	239	228	112	8.4	.00	34
11	.00	3.9	1.5	73	e17	168	118	176	100	7.0	.00	10
12	.00	2.6	1.5	68	e18	130	162	156	99	5.6	.00	3.6
13	.00	3.3	1.5	53	e19	104	135	142	94	4.4	.00	2.1
14	.00	2.0	1.6	48	e20	96	123	126	83	3.5	.00	12
15	.00	1.4	1.5	46	e19	83	116	113	79	2.6	.00	25
16	.00	161	1.4	35	e18	62	102	104	74	2.0	.00	14
17	.00	41	1.3	32	e17	62	96	96	71	1.5	.00	5.9
18	.00	10	1.3	30	e17	59	86	93	68	1.2	.00	3.1
19	.00	5.2	1.6	24	e17	45	80	133	66	.92	.00	2.1
20	.00	83	2.1	20	e17	64	75	494	64	.80	.00	1.3
21	.00	151	1.8	13	e20	132	74	340	61	.88	.00	.97
22	.00	74	14	14	e30	118	71	259	59	.91	.03	.86
23	.00	48	240	14	e45	100	208	323	56	.74	.14	.77
24	.00	31	148	12	77	90	447	267	54	.61	.13	.77
25	.00	20	84	11	67	83	302	507	51	.46	.10	.74
26	.00	16	62	31	65	73	204	2490	49	.35	.06	.73
27	.00	12	70	53	60	71	348	990	48	.27	.01	.68
28	.00	8.0	146	e90	51	69	586	639	47	.20	.01	.63
29	.00	6.0	148	e80	---	69	1440	488	43	.16	.07	.58
30	.00	5.2	124	e70	---	65	874	362	38	.15	.04	.55
31	.00	---	79	e60	---	66	- -	275	---	.13	.01	---
TOTAL	0.00	704.77	1158.3	1982	800	2638	8647	11235	3874	218.78	1.11	267.59
MEAN	.00	23.5	37.4	63.9	28.6	85.1	288	362	129	7.06	.036	8.92
MAX	.00	161	240	276	77	168	1440	2490	749	33	.14	124
MIN	.00	.00	1.3	11	15	39	64	93	38	.13	.00	.55
CFSM	.00	.21	.33	.57	.26	.76	2.57	3.24	1.15	.06	.00	.08
IN.	.00	.23	.38	.66	.27	.88	2.87	3.73	1.29	.07	.00	.09

CAL YR 1988 TOTAL 19518.69 MEAN 53.3 MAX 690 MIN .00 CFSM .48 IN. 6.48
WTR YR 1989 TOTAL 31526.55 MEAN 86.4 MAX 2490 MIN .00 CFSM .77 IN. 10.47

e Estimated

05591700 WEST OKAW RIVER NEAR LOVINGTON, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	.49	1.92	3.40	2.92	2.80	3.35	7.61	5.11	2.51	1.63	1.37
2	---	.49	1.85	2.96	2.73	2.68	3.31	6.74	4.83	2.45	1.61	2.10
3	---	.49	1.86	2.84	2.65	2.79	6.95	5.91	4.56	2.45	1.59	1.65
4	---	.49	1.84	2.65	2.44	3.82	8.29	5.29	8.85	2.41	1.57	1.59
5	---	1.13	1.80	2.63	2.75	4.40	7.49	5.10	6.68	2.39	1.54	1.63
6	---	.98	1.81	3.84	2.83	3.56	6.55	4.75	5.36	2.37	1.51	1.62
7	---	.89	1.80	4.90	2.82	4.08	5.87	4.43	4.81	2.25	1.45	1.59
8	---	.79	1.78	5.87	2.82	4.32	5.63	4.25	4.45	2.16	1.37	1.54
9	---	.69	1.76	4.51	2.81	3.32	6.68	4.27	4.23	2.10	1.30	4.57
10	---	2.72	1.77	4.02	2.80	4.02	5.81	5.24	3.96	2.05	1.21	2.73
11	---	1.93	1.74	3.68	2.81	5.11	5.29	4.73	3.78	2.02	1.13	2.17
12	---	1.79	1.74	3.61	2.81	4.61	4.98	4.47	3.74	1.98	1.08	1.91
13	---	1.85	1.73	3.32	2.80	4.14	6.63	4.34	3.70	1.94	1.03	1.80
14	---	1.79	1.74	3.17	2.87	3.95	4.41	4.13	3.49	1.91	.97	1.85
15	---	1.74	1.74	3.21	2.76	3.87	4.00	3.95	3.43	1.87	.93	2.50
16	---	5.71	1.72	3.02	2.73	3.31	4.11	3.83	3.33	1.85	.87	2.29
17	---	3.32	1.72	2.96	2.73	3.27	4.01	3.71	3.27	1.83	.80	2.01
18	.49	2.46	1.72	2.93	2.72	3.30	3.77	3.63	3.20	1.80	.74	1.85
19	.49	2.23	1.74	2.84	2.72	2.99	3.69	3.66	3.15	1.79	.67	1.82
20	.49	2.51	1.79	2.78	2.57	3.10	3.55	7.14	3.11	1.78	.64	1.74
21	.49	4.64	1.78	2.60	3.15	4.53	3.54	6.15	3.06	1.81	.62	1.68
22	.49	3.39	1.71	2.62	3.05	4.40	3.47	5.29	3.02	1.84	.82	1.66
23	.49	2.87	5.44	2.64	3.15	4.08	3.75	5.99	2.97	1.82	1.34	1.63
24	.49	2.59	4.52	2.58	3.58	3.90	7.55	5.51	2.93	1.81	1.32	1.64
25	.49	2.39	3.58	2.53	3.18	3.76	6.43	5.25	2.86	1.78	1.27	1.63
26	.49	2.31	3.09	2.66	3.14	3.54	5.49	12.48	2.81	1.75	1.21	1.63
27	.49	2.23	3.00	2.95	3.09	3.46	6.34	9.07	2.79	1.73	1.13	1.62
28	.49	2.09	4.40	2.91	2.94	3.41	6.98	7.77	2.77	1.70	1.02	1.60
29	.49	2.01	4.37	2.91	---	3.41	10.27	7.06	2.70	1.67	1.21	1.59
30	.49	1.97	4.37	2.92	---	3.35	8.71	6.30	2.60	1.67	1.19	1.58
31	.49	---	3.40	2.89	---	3.36	---	5.61	---	1.66	1.02	---
MEAN	---	2.03	2.43	3.20	2.87	3.70	5.56	5.60	3.85	1.97	1.15	1.89
MAX	---	5.71	5.44	5.87	3.58	5.11	10.27	12.48	8.85	2.51	1.63	4.57
MIN	---	.49	1.71	2.53	2.44	2.68	3.31	3.63	2.60	1.66	.62	1.37

05591700 WEST OKAW RIVER NEAR LOVINGTON, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
DEC											
08...	1200	17002	17002	2.0	765	7.80	3.0	4.5	13.9	5	68
JAN											
11...	1230	17002	17002	73	634	8.10	4.0	0.30	13.3	4	K65
FEB											
21...	1230	17002	17002	20	615	8.40	3.0	0.70	14.7	5	K18
MAR											
29...	1230	17002	17002	69	643	8.20	12.5	0.20	11.6	10	120
MAY											
08...	1230	17002	17002	138	660	7.80	12.5	1.6	10.7	4	K75
JUN											
15...	1000	17002	17002	79	681	7.90	18.0	1.7	8.4	8	450
JUL											
24...	1230	17002	17002	0.61	529	8.00	27.5	12	7.3	15	K220

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)
DEC											
08...	360	360	85	85	36	35	25	25	2.2	2.1	3
JAN											
11...	310	310	72	71	31	31	7.2	7.1	0.6	0.53	2
FEB											
21...	310	310	72	72	31	31	9.1	9.2	0.7	0.69	6
MAR											
29...	320	320	77	75	33	33	6.4	6.3	0.5	0.30	11
MAY											
08...	330	330	79	77	34	33	5.5	5.3	0.3	0.30	24
JUN											
15...	350	350	83	82	36	35	6.1	6.0	0.3	0.30	76
JUL											
24...	270	270	51	51	36	35	7.4	7.7	0.9	0.30	26

Data for the remaining months were unavailable at time of publication.
These data may be obtained by contacting the district office.

05591700 WEST OKAW RIVER NEAR LOVINGTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
DEC											
08...	1	8.20	<0.100	<0.001	--	0.50	8.7	0.120	0.110	120	<50
JAN											
11...	1	16.0	<0.100	<0.002	--	0.20	16	0.060	0.050	200	80
FEB											
21...	<1	13.0	<0.100	<0.003	--	<0.10	--	0.030	0.020	230	50
MAR											
29...	2	16.0	<0.100	<0.004	--	<0.10	--	0.040	0.030	350	120
MAY											
08...	2	19.0	<0.100	<0.001	--	<0.10	--	0.046	0.030	560	80
JUN											
15...	8	19.0	<0.100	<0.003	--	2.2	21	0.157	0.098	2700	1100
JUL											
24...	5	0.950	0.240	0.016	1.4	1.6	2.5	0.073	0.030	680	<50

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
DEC											
08...	70	67	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN											
11...	60	57	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB											
21...	40	43	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR											
29...	50	50	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAY											
08...	60	52	<0.5	<0.5	<50	<50	--	--	<5	<5	<5
JUN											
15...	80	66	<0.5	<0.5	<50	<50	<3	<3	7	5	<5
JUL											
24...	60	56	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05591700 WEST OKAW RIVER NEAR LOVINGTON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
DEC										
08...	<5	<5	<5	90	<50	<5	<5	47	43	<0.05
JAN										
11...	<5	<5	<5	160	<50	<5	<5	11	7	0.06
FEB										
21...	<5	<5	<5	210	<50	<5	<5	19	11	<0.05
MAR										
29...	<5	<5	<5	290	<50	<5	<5	20	13	<0.05
MAY										
08...	<5	<5	<5	530	<50	<5	<5	33	18	<0.05
JUN										
15...	<5	5	<5	2200	<50	<5	<5	76	26	<0.05
JUL										
24...	<5	<5	<5	820	<50	<5	<5	100	54	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)
DEC										
08...	<5	<5	<3	<3.0	160	160	<5	<5	<50	<50
JAN										
11...	<5	<5	<3	<3.0	140	130	<5	<5	<50	<50
FEB										
21...	<5	<5	<3	<3.0	130	120	<5	<5	<100	<100
MAR										
29...	<5	<5	<3	<3.0	150	150	<5	<5	<50	<50
MAY										
08...	<5	<5	<3	<3.0	130	130	<5	<5	<50	<50
JUN										
15...	<5	<5	<3	<3.0	140	140	6	<5	<50	<50
JUL										
24...	<5	<5	<3	<3.0	120	120	<5	<5	<50	<50

05591950 LAKE SHELBYVILLE NEAR SHELBYVILLE, IL

LOCATION.--Lat 39°24'30", long 88°46'35", in SE1/4 sec.8, T.11 N., R.4 E., Shelby County, Hydrologic Unit 07140201, at Shelbyville Dam on Kaskaskia River east of Shelbyville and at mile 197.9.

DRAINAGE AREA.--1,054 mi^2.

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area. WDR IL-80-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by a compacted earth-fill structure with a gated concrete chute-type spillway section and a separate gated-outlet structure for low-flow releases. Gate closure was made on Aug. 1, 1970. Gained full winter draw-down pool, elevation, 590.0 ft on Mar. 17, 1971; gained full pool, elevation, 599.7 ft on June 6, 1971.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 533,919 acre-ft June 28, 1974, elevation, 620.29 ft; minimum observed, 8,360 acre-ft Oct. 1, 1970, elevation, 562.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 305,906 acre-ft June 4, elevation, 607.45 ft; minimum observed, 165,497 acre-ft Feb. 20, elevation, 595.61 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	596.26	172,035	-
Oct. 31	597.53	167,211	-4,824
Nov. 30	597.53	184,496	+17,285
Dec. 31	597.71	186,340	+1,844
CAL YR 1988	-	-	-79,545
Jan. 31	595.84	167,686	-18,654
Feb. 28	595.91	168,353	+667
Mar. 31	596.68	175,915	+7,562
Apr. 30	602.34	238,018	+62,103
May 31	607.22	302,570	+64,552
June 30	603.83	256,523	-46,047
July 31	599.06	200,536	-55,987
Aug. 31	599.00	199,881	-655
Sept. 30	599.99	210,702	+10,821
WTR YR 1989	-	-	+38,667

KASKASKIA RIVER BASIN

05592000 KASKASKIA RIVER AT SHELBYVILLE, IL

LOCATION.--Lat 39°24'25", long 88°46'50", in SE1/4SW1/4 sec.8, T.11 N., R.4 E., Shelby County, Hydrologic Unit 07140201, on left bank 700 ft downstream from dam, 700 ft upstream from bridge on State Highway 16 in Shelbyville, 0.5 mi upstream from Chicago & Eastern Illinois Railroad bridge, 7 mi upstream from Robinson Creek, and at mile 197.5.

DRAINAGE AREA.--1,054 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1908 to September 1912, November to December 1912, August to December 1914, October 1940 to current year.

REVISED RECORDS.--WSP 975: 1908. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 535.78 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 6, 1914, nonrecording gage at site 750 ft downstream at datum 4.67 ft lower. Oct. 1 to Dec. 3, 1940, and June 1, 1950, to July 10, 1952, nonrecording gage and Dec. 4, 1940, to May 31, 1950, and July 11, 1952, to June 30, 1969, water-stage recorder, at site 650 ft downstream at present datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated by Shelbyville Reservoir (station 05591950), flood-control storage 474,000 acre-ft, beginning June 24, 1969. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--33 years (water years 1909-12, 1941-69), 788 ft^3/s, 10.15 in/yr, prior to construction of Shelbyville Reservoir. 20 years, 938 ft^3/s, since construction of Shelbyville Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,900 ft^3/s, June 29, 1957, gage height, 22.37 ft; no flow at times in 1953-55, 1984. Maximum daily since construction of Shelbyville Reservoir, 4,960 ft^3/s, Mar. 6, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum observed discharge, 1,830 ft^3/s, Jan. 12, gage height, 6.25 ft; minimum daily, 6.0 ft^3/s, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	35	17	1010	542	390	1040	1690	1610	1570	19	9.3
2	30	35	162	1000	502	335	1050	1690	1610	1520	10	7.9
3	30	35	257	1000	502	273	1020	1700	1600	1460	10	8.9
4	30	37	252	997	500	274	959	1700	1600	1450	10	10
5	30	36	251	997	502	272	889	1700	1650	1450	10	11
6	31	36	248	1090	453	271	941	1700	1710	1450	10	10
7	31	36	247	1220	390	273	946	1700	1670	1450	10	14
8	31	36	249	1200	390	273	1060	1610	1620	1440	11	20
9	30	38	250	1250	390	274	1290	1540	1680	1440	13	20
10	30	37	249	1740	390	276	1620	1700	1670	1370	13	17
11	30	34	248	1790	390	276	1800	1700	1600	1320	8.0	17
12	30	35	249	1820	390	275	1760	1690	1410	1320	6.1	20
13	30	34	248	1780	390	540	1680	1690	1290	1240	6.0	17
14	30	34	248	1650	389	916	1620	1700	1470	1150	7.0	18
15	32	34	247	1640	390	1030	1550	1700	1710	1160	7.5	15
16	32	36	250	1630	388	1190	1500	1700	1770	1150	7.3	15
17	33	33	247	1530	388	1400	1330	1580	1640	1150	7.6	15
18	34	32	248	1290	388	1400	1100	1320	1520	1090	8.2	15
19	33	33	248	1080	388	1390	898	1240	1580	988	8.8	15
20	33	39	248	854	389	1400	785	1240	1680	942	8.9	15
21	34	32	197	732	390	1390	671	1240	1720	872	8.1	14
22	34	32	117	730	390	1380	558	1250	1660	756	8.3	10
23	35	32	114	626	390	1380	436	1440	1550	644	8.1	11
24	34	32	113	524	390	1380	539	1570	1480	598	8.5	12
25	34	32	113	432	390	1380	822	1430	1470	532	8.3	13
26	34	34	113	388	390	1390	1020	1000	1470	431	8.7	13
27	34	33	116	427	390	1260	1190	755	1470	359	8.6	13
28	34	33	191	476	390	1110	1380	700	1500	244	9.1	14
29	34	33	504	477	---	1040	1600	1100	1570	135	8.4	13
30	34	21	865	614	---	1040	1690	1580	1570	78	8.5	13
31	35	---	1010	644	---	1040	---	1600	---	48	8.6	---
TOTAL	997	1019	8116	32638	11571	26518	34744	45955	47550	30807	284.6	416.1
MEAN	32.2	34.0	262	1053	413	855	1158	1482	1585	994	9.18	13.9
MAX	35	39	1010	1820	542	1400	1800	1700	1770	1570	19	20
MIN	30	21	17	388	388	271	436	700	1290	48	6.0	7.9

CAL YR 1988 TOTAL 223437.3 MEAN 610 MAX 3750 MIN 9.3
WTR YR 1989 TOTAL 240615.7 MEAN 659 MAX 1820 MIN 6.0

05592000 KASKASKIA RIVER AT SHELBYVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1978 to current year. Additional chemical data for water years 1959-68, 1971-77 are published in Water-Resources Investigations 78-24 and 79-25 as site O 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
02...	1130	17002	17002	35	456	7.90	12.0	6.0	11.0	10	<5
DEC											
07...	1130	17002	17002	248	449	7.90	6.0	1.0	13.2	3	<2
JAN											
10...	1200	17002	17002	1740	442	8.40	2.0	5.7	15.3	9	<2
FEB											
15...	1130	17002	17002	390	448	8.30	2.0	0.10	14.9	11	110
APR											
03...	1200	17002	17002	1040	484	8.30	8.5	4.0	12.5	16	K5
MAY											
23...	1200	17002	17002	1480	522	7.80	16.5	0.70	9.8	11	K10
JUN											
26...	1200	17002	17002	1470	517	7.80	21.0	4.7	8.8	11	K5
AUG											
14...	1130	17002	17002	7.0	534	8.20	21.0	3.7	8.0	12	K30
SEP											
12...	1130	17002	17002	20	492	7.70	20.0	1.6	7.5	10	K10

DATE	HARD NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
NOV											
02...	220	220	38	37	33	32	9.3	9.3	1.1	0.95	2
DEC											
07...	220	220	37	37	32	32	8.9	9.0	1.0	1.0	2
JAN											
10...	200	200	34	34	29	29	9.1	9.0	0.9	0.86	2
FEB											
15...	230	230	38	39	30	31	11	11	1.0	1.0	3
APR											
03...	230	230	45	45	29	29	12	12	1.6	1.2	14
MAY											
23...	230	230	53	52	26	25	9.9	9.8	1.7	1.3	8
JUN											
26...	240	240	54	52	28	27	8.0	8.0	1.8	1.2	6
AUG											
14...	250	250	56	55	27	27	8.0	7.9	1.6	1.7	8
SEP											
12...	240	240	54	53	28	27	7.2	7.1	0.8	0.90	12

05592000 KASKASKIA RIVER AT SHELBYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV 02...	1	1.40	<0.100	<0.002	--	1.0	2.4	0.070	0.020	180	<50
DEC 07...	1	1.30	<0.100	<0.001	--	0.50	1.8	<0.010	<0.010	80	<50
JAN 10...	2	1.00	<0.100	<0.003	--	0.60	1.6	0.020	<0.010	90	70
FEB 15...	2	0.750	<0.100	<0.002	--	0.70	1.5	0.018	0.010	<50	<50
APR 03...	4	2.90	0.140	0.005	0.76	0.90	3.8	0.040	0.010	290	190
MAY 23...	2	9.20	0.110	0.002	0.79	0.90	10	0.060	0.030	400	330
JUN 26...	2	9.90	0.170	0.005	0.43	0.60	10	0.020	<0.010	370	200
AUG 14...	2	3.70	1.00	0.066	0.60	1.6	5.3	0.060	<0.010	150	<50
SEP 12...	4	2.70	1.50	0.031	0.20	1.7	4.4	0.020	0.010	160	<50

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
NOV 02...	50	43	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC 07...	40	47	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN 10...	40	42	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB 15...	30	34	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
APR 03...	40	41	<0.5	<0.5	60	60	<3	<3	<5	<5	<5
MAY 23...	50	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN 26...	60	47	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG 14...	50	47	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP 12...	70	61	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05592000 KASKASKIA RIVER AT SHELBYVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV 02...	<5	<5	<5	260	<50	<5	<5	78	<5	<5
DEC 07...	<5	<5	<5	50	<50	<5	<5	31	<5	<5
JAN 10...	<5	<5	<5	50	<50	<5	<5	19	<5	<5
FEB 15...	<5	<5	<5	<50	<50	<5	<5	21	<5	6
APR 03...	<5	<5	<5	180	<50	<5	<5	41	<5	<5
MAY 23...	<5	<5	<5	140	<50	<5	<5	16	<5	<5
JUN 26...	<5	<5	<5	190	<50	<5	<5	42	24	<5
AUG 14...	<5	<5	<5	220	<50	<5	<5	470	140	<5
SEP 12...	<5	<5	<5	180	<50	<5	<5	1100	850	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 02...	<5	<3	<3.0	110	110	<5	<5	<50	<50	4.9
DEC 07...	<5	<3	<3.0	110	110	<5	<5	<50	<50	4.3
JAN 10...	<5	<3	<3.0	110	110	<5	<5	<50	<50	4.4
FEB 15...	<5	<3	<3.0	110	--	<5	<5	<50	<50	4.9
APR 03...	<5	<3	<3.0	120	120	<5	<5	<50	<50	5.2
MAY 23...	<5	<3	<3.0	130	120	<5	<5	<50	<50	4.4
JUN 26...	<5	<3	<3.0	120	110	<5	<5	<50	<50	4.7
AUG 14...	<5	<3	<3.0	130	130	<5	<5	<50	<50	5.1
SEP 12...	<5	<3	<3.0	130	130	<5	<5	<50	<50	4.2

KASKASKIA RIVER BASIN

05592050 ROBINSON CREEK NEAR SHELBYVILLE, IL

LOCATION.--Lat 39°24'21", long 88°53'47", in NW1/4NW1/4 sec.17, T.11 N., R.3 E., Shelby County, Hydrologic Unit 07140201, on right bank at upstream side of bridge on State Highway 16, 0.1 mi downstream from Mud Creek, 4.5 mi west of Shelbyville, and at mile 9.1.

DRAINAGE AREA.--93.1 mi^2.

PERIOD OF RECORD.--October 1979 to current year. Gage-height record for June 22, 1973, to Sept. 30, 1979, available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 550.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--10 years, 90.4 ft^3/s, 13.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft^3/s, May 2, 1983, gage height, 13.37 ft; no flow for many days in 1982-85, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 28, 1957, reached a stage of 16.8 ft, present site and datum, with a discharge estimated at 26,400 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 29	1130	*2,750	*10.47	No other peak greater than base discharge.			

No flow Oct. 4, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	.69	4.2	33	46	25	50	233	69	4.6	.37	15
2	.15	.69	3.4	28	37	25	190	192	51	4.3	.37	6.4
3	.02	.79	3.3	27	34	29	908	145	43	4.2	.39	1.1
4	.00	1.9	3.0	26	27	40	897	105	39	4.4	.37	.41
5	.02	.94	2.7	42	66	32	245	97	e50	4.2	.30	.21
6	.00	.77	2.6	260	e35	49	162	72	e35	3.5	.30	.19
7	.04	.78	2.5	285	e25	41	123	80	e25	2.7	.65	.15
8	.05	.73	2.2	298	e20	35	337	75	e20	2.2	.46	.75
9	.07	2.5	1.9	109	e18	36	161	128	e16	2.0	.31	97
10	.07	129	1.8	75	e17	93	108	116	e14	1.6	.30	16
11	.02	12	1.5	58	e16	417	88	56	e12	1.3	.30	2.7
12	.03	13	1.1	56	e15	303	76	45	19	1.2	.30	1.4
13	.07	18	1.2	49	e15	165	63	41	19	1.1	.29	1.1
14	.11	3.5	1.6	45	e22	122	57	36	16	.86	.25	19
15	.13	2.1	1.8	45	30	115	53	31	15	.73	.30	8.5
16	.07	200	1.9	38	42	99	47	29	15	.63	.30	2.8
17	.23	43	.98	36	34	54	45	26	14	.59	.34	1.8
18	.28	8.4	.90	36	32	47	42	25	13	.62	.32	1.2
19	.15	7.4	.97	33	31	36	39	347	13	.58	.34	.81
20	.18	523	1.4	29	46	288	35	645	13	.82	.45	.59
21	.34	232	1.3	24	98	232	34	131	12	1.2	.38	.51
22	.28	39	45	24	69	118	33	101	10	.80	.40	.42
23	.82	21	219	25	51	87	37	105	8.8	.51	.28	.30
24	.41	14	59	23	56	72	34	69	8.3	.44	27	.30
25	.36	11	32	26	53	62	31	168	8.0	.59	.30	.34
26	.39	16	22	71	43	53	30	1450	7.6	1.3	.40	.35
27	.46	15	63	87	34	48	50	340	27	.48	.94	.30
28	.64	9.1	124	64	30	49	58	133	11	.37	.61	.30
29	.65	6.4	103	55	---	48	1910	111	6.4	.31	1.9	.34
30	.64	5.2	73	52	---	45	504	77	5.4	.40	.59	.37
31	.71	---	53	48	---	61	---	59	---	.39	.94	---
TOTAL	7.61	1337.89	835.25	2107	1042	2926	6447	5268	615.5	48.92	14.02	180.64
MEAN	.25	44.6	26.9	68.0	37.2	94.4	215	170	20.5	1.58	.45	6.02
MAX	.82	523	219	298	98	417	1910	1450	69	4.6	1.9	97
MIN	.00	.69	.90	23	15	25	30	25	5.4	.31	.25	.15
CFSM	.00	.48	.29	.73	.40	1.01	2.31	1.83	.22	.02	.00	.06
IN.	.00	.53	.33	.84	.42	1.17	2.58	2.10	.25	.02	.01	.07

CAL YR 1988 TOTAL 18424.59 MEAN 50.3 MAX 1380 MIN .00 CFSM .54 IN. 7.36
WTR YR 1989 TOTAL 20829.83 MEAN 57.1 MAX 1910 MIN .00 CFSM .61 IN. 8.32

e Estimated

05592050 ROBINSON CREEK NEAR SHELBYVILLE, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.26	1.36	1.64	2.37	2.63	2.15	2.68	4.89	2.68	1.73	1.43	1.51
2	1.28	1.37	1.59	2.27	2.43	2.15	2.62	4.51	2.72	1.71	1.43	1.84
3	1.25	1.38	1.58	2.23	2.41	2.22	8.78	4.07	2.63	1.71	1.43	1.57
4	1.25	1.48	1.57	2.18	2.22	2.49	9.11	3.50	2.50	1.72	1.43	1.49
5	1.25	1.40	1.55	2.01	3.41	2.32	5.09	3.55	---	1.71	1.41	1.46
6	1.26	1.38	1.54	5.00	2.67	2.71	4.19	3.04	---	1.68	1.42	1.45
7	1.26	1.38	1.53	4.96	2.34	2.57	3.76	3.25	---	1.64	1.48	1.45
8	1.27	1.37	1.52	5.88	2.32	2.52	6.90	3.18	---	1.60	1.45	1.45
9	1.27	1.37	1.49	3.51	2.14	2.50	4.22	3.39	---	1.58	1.42	3.97
10	1.27	5.01	1.49	3.07	2.16	2.42	3.58	3.76	---	1.56	1.42	2.13
11	1.26	1.74	1.47	2.83	2.28	5.26	3.27	2.98	---	1.53	1.42	1.59
12	1.26	1.64	1.44	2.78	2.19	5.67	3.10	2.73	---	1.51	1.42	1.49
13	1.27	2.11	1.43	2.67	2.12	4.22	2.91	2.66	2.13	1.51	1.42	1.46
14	1.27	1.59	1.46	2.54	2.27	3.71	2.77	2.57	2.03	1.50	1.41	1.96
15	1.28	1.52	1.50	2.62	2.23	3.60	2.74	2.49	2.05	1.48	1.42	1.90
16	1.28	6.21	1.47	2.45	2.82	3.60	2.53	2.44	2.04	1.46	1.42	1.60
17	1.28	2.52	1.42	2.42	2.54	2.75	2.59	2.38	2.00	1.45	1.42	1.52
18	1.31	1.79	1.42	2.43	2.37	2.68	2.50	2.36	1.98	1.45	1.42	1.48
19	1.29	1.67	1.41	2.38	2.32	2.41	2.48	2.40	1.99	1.47	1.42	1.44
20	1.30	4.21	1.46	2.30	2.33	2.87	2.41	8.68	1.93	1.50	1.43	1.41
21	1.32	5.10	1.45	2.18	3.43	5.03	2.39	3.97	1.95	1.50	1.43	1.40
22	1.31	2.54	1.43	2.16	2.93	3.71	2.38	3.21	1.90	1.50	1.43	1.39
23	1.41	2.15	4.84	2.20	2.46	3.27	2.43	3.59	1.85	1.45	1.42	1.37
24	1.34	1.95	2.89	2.17	2.61	3.03	2.38	3.02	1.84	1.43	1.41	1.37
25	1.32	1.88	2.38	2.15	2.75	2.90	2.32	2.92	1.82	1.44	1.42	1.37
26	1.34	1.92	2.13	2.67	2.52	2.72	2.30	9.65	1.81	1.56	1.42	1.38
27	1.33	1.99	2.21	3.35	2.30	2.65	2.41	6.03	2.51	1.44	1.55	1.37
28	1.37	1.82	3.69	2.92	2.28	2.62	2.84	3.76	1.97	1.43	1.43	1.37
29	1.37	1.73	3.71	2.78	---	2.67	10.15	3.68	1.82	1.42	1.63	1.37
30	1.36	1.69	3.21	2.71	---	2.59	7.23	3.16	1.77	1.43	1.47	1.38
31	1.37	---	3.01	2.64	---	3.03	---	2.90	---	1.43	1.43	---
MEAN	1.30	2.18	1.97	2.80	2.48	3.07	3.84	3.70	---	1.53	1.44	1.60
MAX	1.41	6.21	4.84	5.88	3.43	5.67	10.15	9.65	---	1.73	1.63	3.97
MIN	1.25	1.36	1.41	2.01	2.12	2.15	2.30	2.36	---	1.42	1.41	1.37

KASKASKIA RIVER BASIN

05592100 KASKASKIA RIVER NEAR COWDEN, IL

LOCATION.--Lat 39°13'50", long 88°50'33", in NW1/4NW1/4 sec.14, T.9 N., R.3 E., Shelby County, Hydrologic Unit 07140201, on left bank at downstream side of bridge on State Highway 128, 0.7 mi downstream from Richland Creek, 1.5 mi southeast of Cowden, and at mile 173.5.

DRAINAGE AREA.--1,330 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). July 19, 1976, to Oct. 4, 1977, nonrecording gage on upstream side of bypass bridge, 75 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow partially regulated by Shelbyville Reservoir (station 05591950) 26 mi upstream from gage. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 1,185 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft^3/s, Apr. 12, 1979, gage height, 18.97 ft; minimum daily, 4.6 ft^3/s, Oct. 6, 1984.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,170 ft^3/s, Apr. 4, gage height, 15.15 ft; minimum daily, 16 ft^3/s, Sept. 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	36	29	1010	747	462	1230	2120	1630	1580	82	19
2	36	36	25	1000	648	451	1300	1860	1750	1570	51	25
3	34	37	88	1000	627	395	3010	1800	1630	1480	40	37
4	31	43	231	996	610	378	4190	1790	1610	1460	35	24
5	31	59	261	1030	606	388	2020	1800	1600	1450	32	20
6	31	47	264	1360	727	392	1400	1760	1670	1440	30	17
7	31	41	261	1680	650	452	1350	1740	1690	1430	27	16
8	31	37	259	1760	608	470	1870	1740	1620	1430	26	16
9	32	46	264	1560	634	366	1770	1620	1650	1430	25	916
10	32	289	266	1830	652	444	1680	1760	1660	1410	24	295
11	31	257	264	1910	583	1110	1910	1780	1660	1330	24	88
12	31	93	265	1900	488	1770	1940	1750	1600	1310	22	44
13	31	66	275	1870	487	895	1850	1740	1400	1290	21	32
14	31	68	276	1750	491	1040	1780	1740	1370	1200	20	757
15	31	56	266	1710	514	1190	1690	1730	1610	1150	21	299
16	32	68	272	1700	584	1170	1660	1730	1740	1160	19	93
17	35	225	292	1670	529	1380	1570	1710	1750	1160	19	48
18	34	116	272	1530	503	1450	1390	1540	1600	1140	19	36
19	35	68	269	1330	506	1440	1180	1360	1570	1060	18	32
20	33	432	276	1120	522	2800	1020	1770	1650	996	19	29
21	32	954	269	914	744	3070	912	1670	1730	950	23	26
22	33	301	237	850	618	1800	793	1430	1730	858	25	25
23	39	98	279	833	530	1620	698	1520	1650	746	21	22
24	39	63	350	707	519	1570	587	1690	1560	648	18	20
25	38	48	224	701	528	1530	788	1750	1520	618	20	20
26	37	48	198	1040	502	1510	1020	3570	1510	527	18	20
27	37	49	289	731	484	1480	1200	2000	1520	455	18	20
28	37	46	576	683	471	1320	1390	1220	1520	394	17	20
29	36	39	462	672	---	1220	2070	1060	1570	263	25	21
30	37	35	929	662	---	1190	2570	1550	1580	168	24	22
31	36	---	1020	818	---	1240	---	1650	---	102	19	---
TOTAL	1046	3801	9508	38327	16112	35993	47838	53950	48350	32205	802	3059
MEAN	33.7	127	307	1236	575	1161	1595	1740	1612	1039	25.9	102
MAX	39	954	1020	1910	747	3070	4190	3570	1750	1580	82	916
MIN	31	35	25	662	471	366	587	1060	1370	102	17	16

CAL YR 1988 TOTAL 285467 MEAN 780 MAX 6340 MIN 14
WTR YR 1989 TOTAL 290991 MEAN 797 MAX 4190 MIN 16

05592100 KASKASKIA RIVER NEAR COWDEN, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.57	1.60	1.77	6.10	5.02	3.87	6.52	9.15	7.72	7.50	1.95	1.35
2	1.60	1.61	1.72	6.09	4.64	3.83	6.40	8.29	8.23	7.47	1.69	1.39
3	1.59	1.62	1.67	6.16	4.57	3.69	11.17	8.15	7.67	7.26	1.58	1.57
4	1.57	1.68	3.04	6.03	4.48	3.53	15.15	8.13	7.62	7.21	1.54	1.38
5	1.56	1.90	3.11	6.10	4.49	3.61	9.05	8.11	7.57	7.16	1.51	1.33
6	1.56	1.73	3.11	7.09	4.92	3.40	7.02	8.06	7.80	7.14	1.49	1.31
7	1.57	1.64	3.10	8.18	4.79	3.79	6.98	7.96	7.86	7.13	1.45	1.29
8	1.57	1.61	3.08	8.58	4.53	4.34	7.67	8.02	7.66	7.10	1.43	1.27
9	1.59	1.65	3.11	7.49	4.57	3.45	8.19	7.64	7.70	7.09	1.42	6.41
10	1.59	2.85	3.14	8.13	4.46	3.60	7.77	7.98	7.77	7.08	1.42	3.33
11	1.58	3.33	3.10	8.38	4.56	5.00	8.36	8.08	7.74	6.83	1.42	1.97
12	1.57	2.17	3.11	8.37	4.01	8.85	8.48	8.01	7.59	6.74	1.39	1.58
13	1.58	1.88	3.20	8.33	4.05	5.62	8.27	7.97	7.03	6.72	1.39	1.45
14	1.58	1.91	3.22	8.06	4.00	5.95	8.12	7.98	6.90	6.44	1.38	4.9
15	1.60	1.81	3.12	7.88	4.05	6.44	7.83	7.96	7.59	6.26	1.38	3.34
16	1.61	1.74	3.12	7.86	4.39	6.34	7.74	7.98	7.99	6.29	1.36	2.04
17	1.63	3.15	3.35	7.79	4.14	6.97	7.53	7.93	8.02	6.27	1.36	1.61
18	1.64	2.33	3.17	7.44	4.02	7.18	7.03	7.52	7.64	6.26	1.35	1.49
19	1.64	1.94	3.15	6.83	4.07	7.13	6.43	6.83	7.48	6.03	1.35	1.42
20	1.66	1.94	3.23	6.25	4.12	7.54	5.90	8.00	7.73	5.93	1.35	1.39
21	1.62	6.29	3.12	5.59	5.15	11.88	5.54	8.03	7.96	5.65	1.40	1.38
22	1.63	3.73	3.13	5.30	4.57	8.22	5.16	7.12	8.00	5.38	1.46	1.35
23	1.72	2.39	2.74	5.28	4.21	7.66	4.80	7.32	7.74	5.00	1.39	1.33
24	1.64	2.07	3.68	4.90	4.11	7.47	4.39	7.86	7.47	4.60	1.36	1.30
25	1.63	1.93	2.94	4.58	4.18	7.38	5.07	7.70	7.38	4.51	1.38	1.28
26	1.60	1.93	2.78	6.31	4.08	7.31	5.83	12.95	7.33	4.27	1.36	1.28
27	1.66	1.94	2.81	4.98	3.97	7.27	6.38	8.72	7.32	3.86	1.35	1.29
28	1.61	1.94	4.79	4.76	3.94	6.81	6.93	6.67	7.37	3.73	1.34	1.29
29	1.61	1.88	3.64	4.72	---	6.52	7.99	6.03	7.48	3.09	1.37	1.30
30	1.62	1.81	5.89	4.65	---	6.39	9.93	7.45	7.53	2.66	1.43	1.30
31	1.61	---	6.08	5.27	---	6.56	---	7.76	---	2.07	1.35	---
MEAN	1.61	2.20	3.24	6.56	4.36	6.05	7.45	7.98	7.63	5.83	1.43	1.83
MAX	1.72	6.29	6.08	8.58	5.15	11.88	15.15	12.95	8.23	7.50	1.95	6.41
MIN	1.56	1.60	1.67	4.58	3.94	3.40	4.39	6.03	6.90	2.07	1.34	1.27

05592100 KASKASKIA RIVER NEAR COWDEN, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1958-61, 1971-77 are published in Water-Resources Investigations 78-24 and 79-25 as site O 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
02...	1030	17002	17002	42	504	7.40	7.0	7.1	11.2	8	K5
DEC											
07...	1030	17002	17002	277	463	7.80	6.0	1.5	12.9	4	52
JAN											
10...	1100	17002	17002	1870	445	8.30	2.0	55	14.9	12	K70
FEB											
15...	1000	17002	17002	499	489	8.20	2.0	0.30	14.4	11	K85
MAR											
20...	0745	81700	80020	1570	447	7.80	4.5	--	12.8	--	--
APR											
03...	1030	17002	17002	2910	347	7.80	9.0	240	11.1	67	5600
MAY											
22...	1300	81700	80020	1410	527	6.90	14.5	--	7.5	--	--
23...	1100	17002	17002	1550	533	7.80	16.5	5.6	8.5	12	K6600
JUN											
26...	1100	17002	17002	1540	511	7.80	22.5	2.0	7.9	12	K100
AUG											
14...	1030	17002	17002	24	599	8.10	23.5	8.2	8.9	19	K80
SEP											
12...	1030	17002	17002	50	302	7.60	21.0	46	6.2	23	3200

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)
NOV											
02...	240	240	45	44	33	32	13	13	1.2	1.2	3
DEC											
07...	230	230	39	39	31	31	9.7	9.9	1.2	1.1	31
JAN											
10...	200	200	36	35	29	28	9.1	9.2	1.1	0.93	74
FEB											
15...	230	230	44	44	30	30	13	13	1.2	1.1	10
MAR											
20...	--	--	--	--	--	-	--	--	--	--	--
APR											
03...	150	150	39	32	21	16	8.9	8.5	5.3	3.1	690
MAY											
22...	--	--	--	--	--	--	--	--	--	--	--
23...	210	210	55	48	25	22	11	9.5	1.6	1.6	62
JUN											
26...	240	240	54	52	28	27	8.2	8.3	2.7	1.7	57
AUG											
14...	280	280	58	59	33	33	14	14	3.1	1.9	51
SEP											
12...	130	130	33	31	13	12	8.2	7.8	5.6	4.4	118

05592100 KASKASKIA RIVER NEAR COWDEN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)
NOV											
02...	<1	1.20	--	<0.100	<0.001	--	0.80	2.0	0.040	0.010	110
DEC											
07...	5	1.30	--	<0.100	<0.001	--	0.50	1.8	0.050	<0.010	640
JAN											
10...	8	1.80	--	<0.100	<0.002	--	0.60	2.4	0.070	0.010	1200
FEB											
15...	2	1.40	--	<0.100	<0.002	--	0.60	2.0	0.040	0.010	200
MAR											
20...	--	--	1.70	--	--	--	--	--	--	--	--
APR											
03...	60	2.80	--	0.250	0.003	3.2	3.5	6.3	0.570	0.090	14000
MAY											
22...	--	--	9.20	--	--	--	--	--	--	--	--
23...	5	9.00	--	0.120	0.002	3.9	4.0	13	0.070	0.020	1400
JUN											
26...	5	9.70	--	<0.100	<0.003	--	0.60	10	0.042	0.010	1100
AUG											
14...	14	0.810	--	<0.100	<0.006	--	0.60	1.4	0.058	<0.010	460
SEP											
12...	8	0.910	--	0.220	0.004	0.38	0.60	1.5	0.320	0.170	3400

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)
NOV											
02...	<50	40	42	<0.5	<0.5	<50	<50	<3	<3	<5	<5
DEC											
07...	<50	50	44	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JAN											
10...	60	60	45	<0.5	<0.5	<50	<50	<3	<3	<5	<5
FEB											
15...	<50	40	37	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
03...	150	200	46	<1.0	<0.5	<50	<50	<3	<3	15	<5
MAY											
22...	--	--	--	--	--	--	--	--	--	--	--
23...	350	70	50	<0.5	<0.5	<50	<50	<3	5	<5	<5
JUN											
26...	200	60	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5
AUG											
14...	<50	70	60	<0.5	<0.5	<50	<50	<3	<3	<5	<5
SEP											
12...	<50	90	52	<0.5	<0.5	<50	<50	<3	<3	6	<5

05592100 KASKASKIA RIVER NEAR COWDEN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV											
02...	<5	<5	<5	<5	210	<50	<5	<5	64	50	<5
DEC											
07...	<5	<5	<5	<5	730	<50	7	<5	76	16	<5
JAN											
10...	<5	<5	<5	<5	1600	<50	<5	<5	120	8	<5
FEB											
15...	<5	<5	<5	<5	260	<50	<5	<5	55	28	<5
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
03...	6	<5	16	<5	17000	65	15	<5	690	13	15
MAY											
22...	--	--	--	--	--	--	--	--	--	--	--
23...	<5	<5	<5	<5	1200	<50	<5	<5	71	8	<5
JUN											
26...	<5	<5	<5	<5	1200	<50	<5	<5	69	<5	<5
AUG											
14...	<5	<5	<5	--	690	<50	7	<5	270	63	12
SEP											
12...	<5	<5	19	<5	4200	<50	<5	<5	250	32	11

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV										
02...	<5	<3	<3.0	120	110	<5	6	<50	<50	4.8
DEC										
07...	<5	<3	<3.0	110	110	<5	<5	<50	<50	4.6
JAN										
10...	<5	<3	<3.0	120	110	<5	<5	<50	<50	4.9
FEB										
15...	<5	<3	<3.0	120	120	<5	<5	<50	<50	4.9
MAR										
20...	--	--	--	--	--	--	--	--	--	--
APR										
03...	<5	<3	<3.0	110	89	23	<5	<100	<100	19
MAY										
22...	--	--	--	--	--	--	--	--	--	--
23...	6	<3	<3.0	130	120	5	<5	<50	<50	5.5
JUN										
26...	<5	<3	<3.0	120	110	<5	<5	<50	<50	4.7
AUG										
14...	7	<3	<3.0	130	--	<5	<5	<50	<50	5.9
SEP										
12...	<5	<3	<3.0	80	76	8	<5	<100	<100	9.9

05592500 KASKASKIA RIVER AT VANDALIA, IL

LOCATION.--Lat 38°57'35", long 89°05'20", in SE1/4 sec.16, T.6 N., R.1 E., Fayette County, Hydrologic Unit 07140202, on right bank at upstream side of Gallatin Street Bridge in Vandalia, 3.5 mi upstream from Hickory Creek and at mile 135.7.

DRAINAGE AREA.--1,940 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1908 to December 1912, August 1914 to current year. Monthly discharge only for some periods, published in WSP 1308.

REVISED RECORDS.--WSP 1208: 1919. WSP 1508: 1912, 1915(M), 1917-18(M), 1923(M), 1925(M), 1928-31(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 453.30 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1933, nonrecording gage at present site at datum 2.00 ft higher. Oct. 1, 1933, to Sept. 23, 1968, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow partially regulated since June 24, 1969, by Shelbyville Reservoir (station 05591950) 45 mi above gage. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 1,412 ft^3/s, 9.88 in/yr, prior to construction of Shelbyville Reservoir. 20 years, 1,714 ft^3/s, since construction of Shelbyville Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,700 ft^3/s, June 29, 1957; maximum gage height, 27.39 ft, June 29, 1951; minimum discharge observed, 3.5 ft^3/s, Aug. 22, 1911.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,140 ft^3/s, Apr. 5, gage height, 18.82 ft; minimum, 39 ft^3/s, Oct. 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	48	150	1350	952	620	2590	2800	1890	1600	213	76
2	47	49	134	1250	907	606	2080	2320	1880	1600	181	69
3	47	50	120	1130	844	605	5570	2040	1970	1590	157	102
4	47	81	107	1130	807	580	7590	1970	1810	1530	138	83
5	44	69	218	1170	734	579	7990	1980	1780	1500	123	76
6	41	84	311	2030	717	588	6380	1970	1770	1490	113	63
7	42	90	326	2850	782	479	3280	1910	1800	1480	105	56
8	42	78	330	2850	800	526	2680	1880	1790	1470	99	60
9	42	95	332	2420	721	580	3320	1860	1720	1460	93	2300
10	44	120	333	1720	700	602	2580	1810	1740	1460	90	3400
11	43	485	332	1840	692	1520	2230	1910	1750	1440	86	1260
12	42	577	324	1900	719	3630	2320	1890	1740	1360	82	433
13	42	357	353	1870	692	3370	2290	1860	1640	1340	78	227
14	42	254	343	1830	688	2190	2170	1830	1470	1310	75	2280
15	40	208	338	1730	710	1680	2080	1810	1450	1230	71	4510
16	41	353	335	1690	782	1570	1980	1800	1660	1190	87	2080
17	47	498	325	1680	876	1480	1910	1780	1780	1180	77	655
18	51	326	331	1640	771	1670	1830	1750	1780	1180	69	354
19	47	228	375	1500	714	1690	1660	1600	1640	1170	66	227
20	47	381	374	1310	705	3560	1410	1790	1610	1130	68	172
21	48	2440	342	1120	875	7240	1240	2070	1680	1060	67	146
22	47	1700	349	930	1180	7100	1120	1780	1740	1030	99	127
23	56	738	661	860	864	4600	1030	1740	1740	927	82	113
24	53	419	809	840	689	2530	965	1810	1660	824	221	100
25	52	292	602	767	704	2110	848	2020	1570	736	151	91
26	50	250	439	1460	717	1960	970	5750	1540	704	84	85
27	50	244	382	1850	672	1890	1170	5990	1540	618	68	81
28	47	263	670	1170	642	1810	1350	3790	1540	560	63	77
29	47	219	893	954	---	1680	1920	2120	1540	484	121	75
30	48	177	753	893	---	1650	2760	1740	1590	398	95	73
31	48	---	1010	865	---	3030	---	1870	---	306	82	---
TOTAL	1432	11173	12701	46599	21656	63775	77313	69240	50810	35357	3204	19451
MEAN	46.2	372	410	1503	773	2057	2577	2234	1694	1141	103	648
MAX	56	2440	1010	2850	1180	7240	7990	5990	1970	1600	221	4510
MIN	40	48	107	767	642	479	848	1600	1450	306	63	56

CAL YR 1988 TOTAL 439643 MEAN 1201 MAX 17100 MIN 27
WTR YR 1989 TOTAL 412711 MEAN 1131 MAX 7990 MIN 40

05592500 KASKASKIA RIVER AT VANDALIA, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.27	2.26	2.97	7.30	6.20	5.02	10.84	10.98	8.79	8.07	3.29	2.11
2	2.29	2.26	2.87	7.25	6.07	4.95	8.69	9.97	8.75	8.05	3.08	2.01
3	2.29	2.26	2.80	6.76	5.83	4.94	15.54	9.20	9.11	8.06	2.89	2.43
4	2.29	2.31	2.71	6.75	5.73	4.90	18.20	8.97	8.61	7.89	2.73	2.17
5	2.27	2.40	3.14	6.79	5.45	4.83	18.63	9.01	8.52	7.79	2.59	2.12
6	2.23	2.51	3.70	8.26	5.37	4.96	17.95	9.01	8.49	7.76	2.48	1.97
7	2.23	2.57	3.78	11.09	5.47	4.32	11.91	8.87	8.57	7.74	2.40	1.88
8	2.23	2.49	3.79	10.90	5.66	4.48	10.66	8.76	8.56	7.71	2.34	1.85
9	2.24	2.43	3.80	10.53	5.36	4.88	12.17	8.76	8.38	7.70	2.29	8.12
10	2.25	2.73	3.81	8.62	5.30	4.84	10.65	8.56	8.39	7.69	2.24	12.86
11	2.24	3.94	3.80	8.88	5.12	7.01	9.57	8.85	8.43	7.66	2.20	7.71
12	2.23	4.94	3.69	9.08	5.39	12.47	9.82	8.83	8.44	7.44	2.18	4.42
13	2.21	4.00	3.91	9.02	5.32	12.39	9.79	8.71	8.25	7.35	2.12	3.40
14	2.21	3.45	3.86	8.95	5.19	9.87	9.52	8.66	7.73	7.32	2.09	5.48
15	2.20	3.25	3.83	8.66	5.34	8.35	9.32	8.61	7.59	7.08	2.05	14.94
16	2.21	3.28	3.81	8.54	5.49	8.03	9.02	8.57	8.13	6.92	2.12	10.17
17	2.22	4.99	3.81	8.50	6.01	7.70	8.87	8.52	8.51	6.93	2.12	5.34
18	2.27	4.33	3.74	8.46	5.65	8.22	8.67	8.50	8.56	6.91	2.03	4.00
19	2.24	3.94	3.84	8.12	5.37	8.32	8.29	8.11	8.18	6.91	1.99	3.40
20	2.25	3.67	4.05	7.60	5.32	8.67	7.66	8.41	8.03	6.71	2.01	3.02
21	2.25	10.18	3.86	7.05	5.55	18.00	7.14	9.29	8.22	6.52	2.03	2.78
22	2.25	8.90	3.83	6.43	7.10	17.87	6.77	8.65	8.41	6.49	2.36	2.61
23	2.38	5.69	4.08	6.14	6.07	15.14	6.44	8.23	8.43	6.17	2.19	2.49
24	2.30	4.29	5.93	6.10	5.33	10.61	6.28	8.62	8.24	5.80	2.45	2.36
25	2.29	3.68	5.08	5.76	5.34	9.41	5.86	8.62	7.98	5.47	2.73	2.27
26	2.27	3.49	4.33	7.26	5.44	8.98	6.17	15.86	7.89	5.34	2.23	2.22
27	2.27	3.36	4.01	9.14	5.23	8.81	6.79	16.54	7.89	5.06	2.02	2.16
28	2.24	3.53	4.55	7.05	5.11	8.66	7.30	13.69	7.90	4.80	1.95	2.13
29	2.25	3.33	6.20	6.24	---	8.31	8.04	9.34	7.90	4.50	2.55	2.09
30	2.25	3.11	5.43	6.02	---	8.08	10.75	8.49	8.03	4.18	2.32	2.07
31	2.26	---	5.95	5.88	---	11.41	---	8.72	---	3.79	2.15	---
MEAN	2.25	3.79	4.03	7.84	5.56	8.53	9.91	9.48	8.30	6.70	2.33	4.09
MAX	2.38	10.18	6.20	11.09	7.10	18.00	18.63	16.54	9.11	8.07	3.29	14.94
MIN	2.20	2.26	2.71	5.76	5.11	4.32	5.86	8.11	7.59	3.79	1.95	1.85

05592500 KASKASKIA RIVER AT VANDALIA, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1958-62, 1964-65, 1971-77 are published in Water-Resources Investigations 78-24 and 79-25 as site O 08.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV 03...	0700	17002	17002	44	574	8.10	7.5	6.6	9.7	9	<10
DEC 08...	0700	17002	17002	329	493	7.40	4.0	5.2	11.4	6	K120
JAN 19...	0700	17002	17002	1540	473	8.00	2.5	5.0	12.8	9	K20
FEB 22...	0700	17002	17002	1240	551	--	2.0	31	12.2	24	200
MAR 20...	1615	81700	80020	4400	253	7.50	4.5	--	11.5	--	--
APR 20...	0800	17002	17002	1450	581	8.10	11.0	10	10.6	16	K10
MAY 23...	1500	81700	80020	1790	532	7.40	19.5	--	7.5	--	--
24...	0900	17002	17002	1810	556	7.10	18.0	27	7.8	21	2300
JUN 30...	1100	17002	17002	1590	505	7.60	23.5	13	7.3	14	K100
AUG 22...	0800	17002	17002	108	574	7.70	24.0	26	6.5	20	<10
SEP 21...	0700	17002	17002	150	466	7.50	19.0	3.7	7.5	16	K130

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
NOV 03...	250	47	55	51	32	29	21	20	1.8	1.6	200
DEC 0[illegible]...	210	50	43	39	30	27	14	13	1.6	1.4	159
JAN 19...	200	47	38	35	29	27	12	11	0.8	0.70	152
FEB 22...	200	61	50	43	27	23	25	22	2.2	1.7	141
MAR 20...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	240	79	55	50	30	28	21	19	1.7	1.3	162
MAY 23...	--	--	--	--	--	--	--	--	--	--	--
24...	230	81	56	54	25	23	18	17	2.8	1.9	149
JUN 30...	240	110	54	53	28	27	8.5	8.5	1.8	1.7	137
AUG 22...	250	29	59	53	31	28	19	18	2.6	1.7	219
SEP 21...	190	24	50	46	19	17	21	20	3.9	3.4	161

05592500 KASKASKIA RIVER AT VANDALIA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 03...	45	41	0.2	308	9	1	0.820	--	0.100	0.002	0.30
DEC 08...	46	35	0.2	257	21	3	1.40	--	0.150	<0.001	0.35
JAN 19...	24	33	0.2	222	45	4	1.20	--	<0.100	<0.001	--
FEB 22...	65	42	0.2	282	206	11	2.20	--	0.170	--	1.1
MAR 20...	--	--	--	--	--	--	--	1.20	--	--	--
APR 20...	58	41	0.2	295	58	5	4.40	--	<0.100	<0.003	--
MAY 23...	--	--	--	--	--	--	--	7.40	--	--	--
24...	48	100	0.2	335	213	19	7.10	--	0.150	<0.001	1.6
JUN 30...	37	27	0.2	237	95	8	9.50	--	<0.100	<0.002	--
AUG 22...	37	30	0.1	300	86	14	<0.100	--	<0.100	<0.003	--
SEP 21...	34	34	0.2	251	35	5	0.720	--	<0.100	<0.001	--

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)
NOV 03...	0.40	1.2	0.120	0.100	230	<50	<1	50	45	<0.5	<0.5
DEC 08...	0.50	1.9	0.057	0.030	500	<50	1	50	44	<0.5	<0.5
JAN 19...	0.60	1.8	0.060	<0.010	720	<50	<1	60	47	<0.5	<0.5
FEB 22...	1.3	3.5	0.180	0.060	2600	60	1	80	42	<0.5	<0.5
MAR 20...	--	--	--	--	--	--	--	--	--	--	--
APR 20...	1.1	5.5	0.070	0.010	1400	110	1	60	47	<0.5	<0.5
MAY 23...	--	--	--	--	--	--	--	--	--	--	--
24...	1.8	8.9	0.240	0.040	4400	220	2	100	69	<0.5	<0.5
JUN 30...	<0.10	--	0.060	0.010	2200	60	<1	80	54	<0.5	<0.5
AUG 22...	0.85	--	0.130	0.020	1200	70	1	90	67	<0.5	<0.5
SEP 21...	0.40	1.1	0.090	0.040	810	60	1	90	77	<0.5	<0.5

05592500 KASKASKIA RIVER AT VANDALIA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV											
03...	50	<50	<3	<3	<5	<5	<5	<5	<5	<5	670
DEC											
08...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5	670
JAN											
19...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5	1000
FEB											
22...	<50	<50	<3	<3	7	<5	<5	<5	<5	<5	3300
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
20...	<50	<50	--	--	5	<5	<5	<5	<5	<5	1800
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
24...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5	5400
JUN											
30...	<50	<50	<3	<3	6	--	<5	<5	<5	<5	2600
AUG											
22...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5	2100
SEP											
21...	<50	<50	<3	<3	<5	<5	<5	<5	<5	<5	1400

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
NOV										
03...	<50	<5	<5	230	180	<0.05	<5	<5	<3	<3.0
DEC										
08...	<50	<5	<5	79	33	<0.05	<5	<5	<3	<3.0
JAN										
19...	<50	<5	<5	93	8	<0.05	<5	<5	<3	<3.0
FEB										
22...	<50	<5	<5	170	26	<0.05	5	<5	<3	<3.0
MAR										
20...	--	--	--	--	--	--	--	--	--	--
APR										
20...	<50	<5	<5	150	29	<0.05	<5	<5	<3	<3.0
MAY										
23...	--	--	--	--	--	--	--	--	--	--
24...	<50	<5	<5	280	<5	<0.05	<5	6	<3	<3.0
JUN										
30...	<50	<5	<5	170	6	0.06	<5	<5	<3	<3.0
AUG										
22...	<50	<5	<5	610	330	<0.05	<5	--	<3	<3.0
SEP										
21...	<50	<5	<5	250	160	<0.05	<5	<5	<3	<3.0

05592500 KASKASKIA RIVER AT VANDALIA, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
NOV										
03...	120	110	<5	<5	<50	<50	4.2	<0.005	<5	1
DEC										
08...	120	110	<5	<5	<50	<50	4.5	<0.005	<5	1
JAN										
19...	130	120	<5	<5	<50	<50	4.6	<0.005	<5	1
FEB										
22...	160	140	<5	<5	<50	<50	10	<0.005	<5	<1
MAR										
20...	--	--	--	--	--	--	--	--	--	--
APR										
20...	160	150	<5	<5	<50	<50	5.8	<0.005	<5	1
MAY										
23...	--	--	--	--	--	--	--	--	--	--
24...	160	150	8	<5	<50	<50	6.6	<0.005	<5	<1
JUN										
30...	130	130	<5	<5	<50	<50	5.3	0.005	<5	--
AUG										
22...	140	130	<5	<5	<50	<50	7.5	<0.005	<5	--
SEP										
21...	150	140	<5	<5	<50	<50	7.4	<0.005	<5	--

05592575 HICKORY CREEK NEAR BROWNSTOWN, IL

LOCATION.--Lat 38°58'12", long 88°57'10", in NW1/4NW1/4 sec.28, T.5 N., R.2 E., Fayette County, Hydrologic Unit 07140202, on left bank at downstream side of county bridge, about 4 mi south of Brownstown, 4.3 mi above Little Hickory Creek, and at mile 12.0.

DRAINAGE AREA.--44.2 mi^2.

PERIOD OF RECORD.--October 1988 to September 1989.

GAGE.--Water-stage recorder. Datum of gage is 493.37 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair except those for periods of estimated daily discharges, which are poor. U.S. Army Corps of Engineers Satellite telemeter at site.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,400 ft^3/s, Sept. 14, 1989, gage height, 16.27 ft; no flow for many days in 1988-89.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	unknown	1,770	14.5	May 25	2300	1,760	14.45
Mar. 31	0400	1,360	13.10	Aug. 25	unknown	840	11.0
Apr. 3	0145	1,570	13.84	Sept. 14	1715	*2,400	*16.27
Apr. 4	0200	1,650	14.11				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.22	4.2	5.8	e2.2	67	7.3	11	.41	.00	2.0
2	.00	.00	.06	3.6	5.5	e2.0	405	6.7	39	.32	.00	7.1
3	.00	.00	.02	5.3	18	e2.0	878	6.3	12	.35	.00	2.2
4	.00	1.3	.00	14	e9.0	e3.0	642	8.3	9.1	.56	.00	.92
5	.00	19	.00	24	e5.0	e5.0	71	11	77	.55	.00	.62
6	.00	2.1	.00	289	e3.5	6.7	41	5.3	19	.35	.00	.61
7	.00	.14	.00	149	e2.5	7.1	47	3.4	9.0	.24	.00	.43
8	.00	.00	.00	51	e1.5	6.7	41	3.1	6.3	.20	.00	1.2
9	.00	.01	.00	13	e1.0	8.8	29	5.5	5.1	.14	.00	93
10	.00	41	.00	9.5	e.80	23	e15	5.5	4.0	.08	.00	15
11	.00	8.6	.00	6.2	e.60	e80	e12	3.4	3.3	.04	.00	4.3
12	.00	1.5	.00	5.9	e1.5	e20	e10	2.6	3.4	.03	.00	1.6
13	.00	.48	.00	5.2	3.8	e30	e9.0	2.3	3.2	.05	.00	.61
14	.00	.34	.00	4.0	7.9	e50	e8.0	1.9	2.7	.03	.00	1450
15	.00	.10	.00	3.9	9.3	e40	e7.0	1.6	5.7	.03	.00	204
16	.00	94	.00	3.2	26	e30	e6.5	1.5	3.7	.03	49	58
17	.00	10	.00	3.1	11	e25	e6.0	1.3	2.2	.03	24	29
18	.00	1.5	.00	2.9	7.4	e20	e8.0	1.1	1.8	.00	4.1	17
19	.00	.26	.00	2.4	6.0	e18	e11	1.8	1.9	.00	1.2	12
20	.00	138	.00	1.9	7.1	900	12	11	1.6	9.2	9.6	8.8
21	.00	48	.00	1.4	42	420	11	3.1	1.3	24	51	7.0
22	.00	8.2	.03	1.2	15	63	10	3.6	1.1	3.1	5.4	5.9
23	.00	2.7	4.7	1.2	6.8	35	14	20	.88	.95	1.5	4.5
24	.00	1.2	6.6	1.4	4.0	26	13	4.9	.70	.46	e10	3.7
25	.00	.60	4.8	4.0	e3.5	21	11	461	.57	.37	e350	3.2
26	.00	5.1	2.5	57	e3.0	17	9.6	703	.50	.24	e100	2.7
27	.00	12	4.0	29	e2.7	15	8.2	48	1.7	.16	e50	2.3
28	.00	4.0	27	12	e2.4	15	7.7	25	3.7	.09	e15	1.9
29	.00	1.4	20	9.8	---	16	11	60	1.3	.04	e5.0	1.7
30	.00	.61	9.2	8.4	---	258	9.2	20	.61	.07	3.0	1.5
31	.00	---	5.9	7.0	---	646	---	11	---	.02	2.2	---
TOTAL	0.00	402.34	85.03	733.7	212.60	2811.5	2430.2	1450.5	234.36	42.14	681.00	1942.79
MEAN	.00	13.4	2.74	23.7	7.59	90.7	81.0	46.8	7.81	1.36	22.0	64.8
MAX	.00	138	27	289	42	900	878	703	77	24	350	1450
MIN	.00	.00	.00	1.2	.60	2.0	6.0	1.1	.50	.00	.00	.43
CFSM	.00	.30	.06	.54	.17	2.05	1.83	1.06	.18	.03	.50	1.47
IN.	.00	.34	.07	.62	.18	2.37	2.05	1.22	.20	.04	.57	1.64

WTR YR 1989 TOTAL 11026.16 MEAN 30.2 MAX 1450 MIN .00 CFSM .68 IN. 9.28

e Estimated

05592575 HICKORY CREEK NEAR BROWNSTOWN, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1988 to September 1989.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMPER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.96	2.05	3.87	4.30	4.33	4.12	5.63	4.16	4.37	3.79	3.64	4.06
2	1.99	2.04	3.80	4.24	4.24	4.11	5.08	4.14	5.23	3.77	3.62	4.47
3	2.00	2.04	3.79	4.28	4.86	4.16	10.35	4.12	4.48	3.77	3.60	4.07
4	1.98	2.11	3.75	4.63	4.59	4.28	10.43	4.07	4.44	3.82	3.58	3.93
5	1.95	5.10	3.73	4.64	4.38	4.34	5.71	4.57	6.34	3.83	3.56	3.87
6	1.92	4.34	3.72	8.26	4.24	4.33	5.11	4.29	4.80	3.78	3.53	3.92
7	1.90	4.03	3.72	6.73	4.17	4.36	5.46	4.14	4.42	3.75	3.49	3.90
8	1.89	3.87	3.70	5.71	4.14	4.33	5.13	4.09	4.28	3.73	3.45	3.84
9	1.88	3.78	3.69	4.67	4.05	4.36	4.85	4.25	4.23	3.72	3.42	7.09
10	1.88	6.32	3.68	4.69	4.03	4.85	---	4.33	4.15	3.69	3.39	4.78
11	1.88	4.76	3.66	4.35	4.07	---	---	4.18	4.11	3.67	3.36	4.29
12	1.87	4.27	3.64	4.38	4.10	---	---	4.12	4.11	3.67	3.33	4.07
13	1.89	4.13	3.64	4.34	4.15	---	---	4.08	4.10	3.66	3.31	3.93
14	1.85	4.08	3.67	4.27	4.49	---	---	4.05	4.06	3.67	3.29	13.83
15	1.86	4.01	3.67	4.27	4.41	---	---	4.03	4.33	3.67	3.26	7.37
16	1.85	7.73	3.66	4.20	5.08	---	---	4.01	4.15	3.67	3.46	5.97
17	1.86	4.80	3.65	4.21	4.65	---	---	3.99	4.02	3.67	4.90	5.43
18	2.03	4.27	3.64	4.19	4.28	---	---	3.96	3.98	3.67	4.18	5.15
19	2.04	4.07	3.65	4.16	4.33	---	---	3.96	3.99	3.55	3.92	4.96
20	2.04	4.47	3.67	4.12	4.32	---	---	4.77	3.97	3.56	3.85	4.84
21	2.05	5.53	3.67	4.06	5.57	---	4.32	4.17	3.94	4.91	5.60	4.75
22	2.05	4.53	3.66	4.03	4.75	5.59	4.30	4.01	3.91	4.11	4.26	4.71
23	2.13	4.19	4.31	4.04	4.50	5.04	4.39	4.96	3.88	3.89	3.96	4.62
24	2.14	4.05	4.43	4.05	4.23	4.79	4.42	4.28	3.85	3.80	---	4.57
25	2.13	3.96	4.35	4.06	4.18	4.65	4.33	4.12	3.83	3.77	---	4.53
26	2.11	4.05	4.16	5.60	4.27	4.55	4.28	12.14	3.81	3.75	---	4.52
27	2.10	4.68	4.14	5.12	4.22	4.47	4.22	5.64	3.97	3.72	---	4.48
28	2.11	4.30	5.27	4.62	4.17	4.43	4.19	4.87	4.15	3.69	---	4.44
29	2.09	4.08	5.02	4.51	---	4.45	4.31	5.91	3.94	3.66	---	4.41
30	2.08	3.96	4.56	4.46	---	7.82	4.24	4.81	3.84	3.68	---	4.39
31	2.06	---	4.39	4.38	---	11.75	---	4.51	---	3.66	4.11	---
MEAN	1.99	4.19	3.93	4.63	4.39	---	---	4.60	4.22	3.77	---	4.97
MAX	2.14	7.73	5.27	8.26	5.57	---	---	12.14	6.34	4.91	---	13.83
MIN	1.85	2.04	3.64	4.03	4.03	---	---	3.96	3.81	3.55	---	3.84

05592800 HURRICANE CREEK NEAR MULBERRY GROVE, IL

LOCATION.--Lat 38°55'21", long 89°14'14", in NW1/4SE1/4 sec.31, T.6 N., R.1 W., Fayette County, Hydrologic Unit 07140202, on left bank at downstream side of bridge on State Highway 140, 300 ft downstream from Penn Central bridge, [illegible] east of Mulberry Grove, and at mile 14.1.

DRAINAGE AREA.--152 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 467.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1975, at same site at datum 0.30 ft lower.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 141 ft^3/s, 12.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft^3/s, Dec. 25, 1982, gage height, 19.99 ft, no flow for many days in 1987-88.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	0745	*3,760	*15.86	No other peak greater than base discharge.			

No flow for part of Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.35	7.7	e30	34	e15	157	29	64	5.3	2.9	9.9
2	.75	.32	6.3	e27	35	e15	583	25	69	4.6	2.2	7.0
3	.24	.35	6.1	e25	60	e18	1860	22	38	4.9	2.0	3.9
4	.23	11	5.6	e30	30	27	1880	22	29	5.7	1.7	2.5
5	.18	17	5.1	40	e25	33	256	27	37	5.4	1.6	2.0
6	.20	9.2	5.4	758	e20	25	122	24	29	4.6	1.4	1.7
7	.24	3.8	5.4	294	e18	23	99	20	22	3.5	1.1	1.5
8	.24	2.0	5.1	239	e16	31	95	19	19	2.7	.90	1.7
9	.27	9.0	4.8	72	e14	28	81	22	18	2.4	.81	455
10	.36	102	4.7	41	e13	83	62	21	15	2.2	.64	158
11	.33	102	4.2	38	e14	432	55	18	14	2.0	.54	29
12	.25	31	3.7	36	e18	716	51	15	15	1.9	.54	12
13	.29	34	e3.5	31	24	443	45	14	16	1.7	.54	6.4
14	.37	32	e3.2	27	35	273	42	14	13	3.5	.54	1150
15	.31	15	e3.1	27	47	102	41	13	13	3.1	.48	235
16	.33	208	e3.0	25	95	62	38	12	13	2.3	1.3	60
17	.62	119	e3.0	24	58	51	35	12	10	1.8	5.6	44
18	1.8	17	e3.0	23	39	80	61	10	9.5	1.4	2.5	19
19	.40	7.4	e3.0	22	38	52	52	19	9.5	1.4	1.6	11
20	.20	405	e3.5	20	42	1750	36	186	9.3	4.3	2.8	7.6
21	.31	494	e4.5	17	152	2760	32	39	8.0	22	15	6.0
22	.28	55	6.6	16	75	232	30	25	7.2	23	33	5.1
23	.88	24	126	16	29	121	30	37	6.7	7.9	8.4	4.1
24	.62	16	70	16	e25	92	30	27	6.1	5.0	250	3.5
25	.31	12	36	43	e20	77	27	191	5.5	9.2	90	2.9
26	.34	18	27	338	e18	65	24	1370	5.0	4.2	e20	2.8
27	.31	30	40	150	e16	58	22	448	21	3.6	7.0	2.8
28	.71	21	137	64	e15	59	21	81	19	2.7	3.7	2.6
29	.45	13	68	51	---	75	95	185	9.0	2.3	2.8	2.4
30	.29	9.8	e50	45	---	148	46	81	6.5	4.6	4.0	2.4
31	.28	---	e35	39	---	729	---	48	---	3.5	5.8	---
TOTAL	12.99	1818.22	689.5	2624	1025	8675	6028	3076	556.3	152.7	471.39	2251.8
MEAN	.42	60.6	22.2	84.6	36.6	280	201	99.2	18.5	4.93	15.2	75.1
MAX	1.8	494	137	758	152	2760	1880	1370	69	23	250	1150
MIN	.18	.32	3.0	16	13	15	21	10	5.0	1.4	.48	1.5
CFSM	.00	.40	.15	.56	.24	1.84	1.32	.65	.12	.03	.10	.49
IN.	.00	.44	.17	.64	.25	2.12	1.48	.75	.14	.04	.12	.55

CAL YR 1988 TOTAL 36038.20 MEAN 98.5 MAX 9120 MIN .00 CFSM .65 IN. 8.82
WTR YR 1989 TOTAL 27380.90 MEAN 75.0 MAX 2760 MIN .18 CFSM .49 IN. 6.70

e Estimated

05592800 HURRICANE CREEK NEAR MULBERRY GROVE, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.28	2.37	2.85	---	3.49	3.11	5.22	3.37	3.44	2.62	2.48	2.52
2	2.44	2.37	2.78	---	3.37	3.08	4.45	3.27	4.02	2.58	2.42	2.68
3	2.37	2.37	2.78	---	4.11	3.13	13.76	3.20	3.49	2.56	2.40	2.55
4	2.37	2.40	2.75	---	3.41	3.33	13.73	3.17	3.28	2.63	2.37	2.45
5	2.36	2.96	2.73	---	3.40	3.46	5.88	3.31	3.57	2.61	2.36	2.39
6	2.35	2.96	2.74	9.83	3.32	3.17	4.82	3.26	3.31	2.59	2.34	2.37
7	2.36	2.71	2.74	6.62	3.17	3.18	4.51	3.14	3.14	2.52	2.30	2.35
8	2.36	2.57	2.73	6.27	3.17	3.44	4.49	3.11	3.06	2.46	2.28	2.33
9	2.36	2.48	2.71	4.20	3.07	3.14	4.34	3.16	3.02	2.44	2.26	7.17
10	2.37	4.59	2.71	3.67	3.00	3.54	4.02	3.19	2.96	2.42	2.25	5.12
11	2.37	4.94	2.68	3.64	3.06	6.53	3.89	3.09	2.91	2.40	2.24	3.43
12	2.36	3.46	2.65	3.54	3.13	10.49	3.82	3.01	2.95	2.38	2.24	2.94
13	2.36	3.59	2.68	3.43	3.20	5.99	3.73	2.98	3.01	2.37	2.24	2.72
14	2.37	3.60	2.70	3.33	3.45	6.16	3.67	2.98	2.90	2.40	2.24	12.03
15	2.37	3.11	2.72	3.33	3.54	4.66	3.64	2.94	2.87	2.50	2.22	5.93
16	2.37	3.92	2.71	3.28	4.20	4.04	3.59	2.92	2.92	2.43	2.22	3.89
17	2.39	4.83	2.68	3.26	3.69	3.83	3.54	2.92	2.82	2.37	2.72	3.74
18	2.64	3.39	2.68	3.23	3.35	4.10	3.48	2.86	2.79	2.34	2.46	3.14
19	2.39	3.05	2.68	3.21	3.55	3.86	3.86	2.86	2.79	2.33	2.36	2.89
20	2.35	3.57	2.71	3.17	3.49	8.61	3.56	7.10	2.79	2.34	2.35	2.77
21	2.36	8.94	2.72	3.09	5.20	15.78	3.47	3.59	2.75	2.66	2.45	2.70
22	2.36	3.99	2.72	3.04	4.27	5.78	3.43	3.17	2.72	3.24	---	2.66
23	2.42	3.36	4.91	3.05	3.39	4.82	3.41	3.47	2.70	2.74	2.76	2.60
24	2.41	3.10	4.19	3.05	3.51	4.47	3.44	3.36	2.67	2.58	---	2.58
25	2.36	2.99	3.59	3.07	3.26	4.26	3.38	3.11	2.65	2.92	3.72	2.53
26	2.37	3.09	3.36	7.02	3.29	4.07	3.31	11.61	2.63	2.55	---	2.53
27	2.36	3.42	3.41	5.23	3.21	3.95	3.25	6.59	3.06	2.53	---	2.52
28	2.42	3.27	5.11	4.04	3.16	3.86	3.22	4.13	3.08	2.46	2.53	2.51
29	2.39	3.02	3.99	3.78	---	4.25	5.09	5.53	2.76	2.42	2.47	2.49
30	2.36	2.91	---	3.69	---	4.27	3.73	4.24	2.67	2.61	2.44	2.50
31	2.36	---	---	3.58	---	10.27	---	3.67	---	2.51	2.65	---
MEAN	2.38	3.44	---	---	3.48	5.05	4.59	3.82	2.99	2.53	---	3.37
MAX	2.64	8.94	---	---	5.20	15.78	13.76	11.61	4.02	3.24	---	12.03
MIN	2.28	2.37	---	---	3.00	3.08	3.22	2.86	2.63	2.33	---	2.33

05592800 HURRICANE CREEK NEAR MULBERRY GROVE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV											
02...	1400	17002	17002	0.30	604	7.80	7.5	19	7.0	19	K10
DEC											
07...	1400	17002	17002	5.4	645	7.50	5.0	4.4	10.5	5	110
JAN											
18...	1400	17002	17002	24	683	8.20	3.5	2.3	12.6	7	K80
FEB											
21...	1400	17002	17002	199	546	--	3.5	52	11.5	38	600
APR											
19...	1400	17002	17002	47	504	7.60	12.5	98	9.5	26	5700
MAY											
24...	1030	17002	17002	27	550	6.90	20.0	11	6.9	21	1400
JUN											
30...	1245	17002	17002	6.5	598	7.50	25.5	9.2	6.5	20	560
AUG											
21...	1400	17002	17002	11	544	8.00	23.5	21	8.2	24	2300
SEP											
20...	1400	17002	17002	7.2	398	7.50	19.5	15	7.7	17	160

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)
NOV											
02...	250	250	70	63	25	23	26	24	3.9	3.4	22
DEC											
07...	260	260	70	63	28	25	32	29	3.0	2.6	8
JAN											
18...	260	260	70	62	30	26	33	30	1.9	1.7	9
FEB											
21...	200	200	57	48	24	20	23	21	3.6	2.7	235
APR											
19...	190	190	52	44	24	20	20	17	3.6	2.9	162
MAY											
24...	230	230	61	59	22	21	23	23	4.1	3.8	153
JUN											
30...	260	260	63	63	26	25	28	28	3.3	3.0	53
AUG											
21...	210	210	53	49	24	22	28	26	3.4	3.3	95
SEP											
20...	160	160	44	41	16	15	15	15	4.2	3.9	46

05592800 HURRICANE CREEK NEAR MULBERRY GROVE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV 02...	2	<0.100	<0.100	<0.001	--	0.50	--	0.220	0.160	460	<50
DEC 07...	2	1.00	<0.100	<0.001	--	0.40	1.4	0.080	0.040	180	<50
JAN 18...	1	1.30	0.160	0.003	0.24	0.40	1.7	0.080	0.040	230	50
FEB 21...	16	2.60	0.560	--	1.6	2.2	4.8	0.390	0.120	3800	50
APR 19...	17	1.10	0.540	0.005	1.6	2.1	3.2	0.240	0.060	4100	190
MAY 24...	15	1.00	0.380	0.001	1.4	1.8	2.8	0.260	0.110	2800	200
JUN 30...	6	0.420	0.180	0.003	0.52	0.70	1.1	0.160	0.080	1600	90
AUG 21...	10	0.100	<0.100	<0.005	--	0.60	0.70	0.130	0.060	1700	70
SEP 20...	8	0.580	0.100	0.001	0.20	0.30	0.88	0.150	0.090	1100	50

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
NOV 02...	100	80	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC 07...	90	76	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN 18...	90	81	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB 21...	100	52	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
APR 19...	100	65	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
MAY 24...	100	100	<0.5	<0.5	<50	<50	<3	<3	21	<5	<5
JUN 30...	100	100	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG 21...	100	79	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP 20...	100	78	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05592800 HURRICANE CREEK NEAR MULBERRY GROVE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV											
02...	<5	<5	<5	990	200	<5	<5	460	290	<0.05	<5
DEC											
07...	<5	<5	12	490	<50	<5	<5	300	260	0.05	<5
JAN											
18...	<5	<5	<5	380	<50	<5	<5	260	220	<0.05	<5
FEB											
21...	<5	5	<5	4700	<50	5	<5	340	94	<0.05	7
APR											
19...	<5	<5	<5	4900	70	<5	<5	300	130	<0.05	6
MAY											
24...	<5	<5	<5	4100	<50	<5	<5	310	110	<0.05	<5
JUN											
30...	<5	<5	<5	1700	<50	<5	<5	490	380	<0.05	<5
AUG											
21...	<5	<5	<5	2200	<50	<5	<5	600	380	<0.05	<10
SEP											
20...	<5	<5	<5	1800	<50	<5	<5	240	190	<0.05	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV										
02...	<5	<3	<3.0	140	120	<5	<5	<50	--	11
DEC										
07...	<5	<3	<3.0	150	140	<5	<5	<50	<50	5.1
JAN										
18...	<5	<3	<3.0	180	160	<5	<5	<50	<50	5.5
FEB										
21...	<5	<3	<3.0	130	110	6	<5	<50	<50	16
APR										
19...	<5	<3	<3.0	130	110	9	<5	<50	<50	12
MAY										
24...	<5	<3	<3.0	150	150	13	<5	<50	<50	8.6
JUN										
30...	<5	<3	<3.0	170	170	<5	<5	<50	<50	8.3
AUG										
21...	<10	<3	<3.0	140	140	6	<5	<50	<50	8.3
SEP										
20...	<5	<3	<3.0	110	98	<5	<5	<50	<50	7.5

KASKASKIA RIVER BASIN

05592900 EAST FORK KASKASKIA RIVER NEAR SANDOVAL, IL

LOCATION.--Lat 38°41'20", long 89°06'00", in NE1/4NW1/4 sec.21, T.3 N., R.1 E., Marion County, Hydrologic Unit 07140202, on right bank at downstream side of bridge on U.S. Highway 51, about 1 mi north of Fairman, about 5 mi north of Sandoval, and at mile 9.9.

DRAINAGE AREA.--113 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year. Gage-height record for April 1955 to Sept. 30, 1979, available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 460.20 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--10 years, 102 ft^3/s, 12.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,540 ft^3/s, Nov. 20, 1985, gage height, 18.72 ft; no flow for many days in 1980-81, 1983-84, 1987-88.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	1645	2,790	16.37	Apr. 3	0530	2,000	14.65
Mar. 31	0630	1,900	14.37	Apr. 4	0715	*3,080	*16.69

Minimum daily discharge, 0.05 ft^3/s, Oct. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	1.2	11	38	23	e15	1130	20	14	3.2	.85	1.8
2	.37	1.1	8.8	31	23	e14	476	12	27	1.7	.66	1.7
3	.31	.92	7.2	45	100	e13	1750	9.6	14	1.2	.57	1.5
4	.23	8.6	5.8	110	90	e14	2380	8.9	8.6	1.1	.46	1.1
5	.20	109	4.8	184	e30	21	1210	15	29	1.1	.38	.79
6	.20	114	4.5	1090	e20	26	116	24	30	1.3	.33	.56
7	.19	26	4.3	967	e10	27	66	16	17	1.2	.27	.49
8	.18	13	3.7	664	e7.0	23	63	12	8.6	1.1	.21	.44
9	.16	7.8	3.5	99	e6.0	24	59	9.7	4.5	.99	.17	.42
10	.15	14	3.3	46	e5.5	141	42	9.3	2.5	.80	.15	.36
11	.12	143	2.9	35	e5.2	454	32	9.1	1.6	.53	.13	.39
12	.10	48	2.8	33	e5.0	303	28	8.1	1.4	.61	.11	.38
13	.08	22	2.7	32	15	138	25	7.2	1.4	.50	.10	.29
14	.07	23	2.8	29	60	267	22	6.3	1.4	.47	.08	403
15	.06	26	2.7	26	78	99	20	5.6	1.2	.35	.07	516
16	.05	124	2.5	24	149	49	19	5.1	.94	.24	.07	424
17	.14	232	2.3	23	92	35	16	4.4	.87	.42	.13	39
18	.93	57	2.2	22	45	41	17	4.0	.87	.36	.11	15
19	.55	74	2.2	20	36	32	24	7.8	.84	.27	8.9	5.8
20	.60	454	2.4	18	56	1440	22	35	.79	.25	4.5	2.4
21	.82	610	2.2	17	234	2430	18	25	.81	.28	7.9	1.2
22	.67	223	2.8	16	157	1350	16	19	.81	.20	13	.86
23	.78	42	50	15	54	114	14	65	.74	.20	2.8	.49
24	1.1	24	106	15	33	68	15	69	1.1	.19	16	.27
25	1.0	16	65	18	e25	48	15	31	1.0	1.7	238	.24
26	.91	27	38	59	e20	40	13	254	.84	1.5	176	.17
27	.91	73	24	95	e18	33	11	208	.89	1.1	28	.13
28	.80	66	39	57	e16	29	10	48	.81	2.6	9.9	.14
29	.68	31	111	37	---	41	9.6	75	7.2	21	4.8	.13
30	.96	18	89	32	---	824	51	49	7.2	2.1	2.9	.11
31	1.2	---	52	30	---	1550	---	24	---	1.4	2.1	---
TOTAL	14.80	2628.62	661.4	3927	1412.7	9703	7689.6	1096.1	187.91	49.96	519.65	1419.16
MEAN	.48	87.6	21.3	127	50.5	313	256	35.4	6.26	1.61	16.8	47.3
MAX	1.2	610	111	1090	234	2430	2380	254	30	21	238	516
MIN	.05	.92	2.2	15	5.0	13	9.6	4.0	.74	.19	.07	.11
CFSM	.00	.78	.19	1.12	.45	2.77	2.27	.31	.06	.01	.15	.42
IN.	.00	.87	.22	1.29	.47	3.19	2.53	.36	.06	.02	.17	.47

CAL YR 1988 TOTAL 26670.36 MEAN 72.9 MAX 4100 MIN .00 CFSM .64 IN. 8.78
WTR YR 1989 TOTAL 29309.90 MEAN 80.3 MAX 2430 MIN .05 CFSM .71 IN. 9.65

e Estimated

05592900 EAST FORK KASKASKIA RIVER NEAR SANDOVAL, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.94	2.23	2.87	3.76	3.17	2.96	11.97	3.29	2.97	2.54	2.21	2.32
2	2.06	2.21	2.74	3.55	3.04	2.91	5.59	2.93	3.82	2.47	2.17	2.32
3	2.04	2.19	2.63	3.76	4.98	2.90	14.19	2.76	3.03	2.35	2.16	2.30
4	2.02	2.17	2.55	5.42	4.89	2.92	16.57	2.71	2.80	2.31	2.13	2.23
5	2.00	3.95	2.46	5.22	3.94	3.05	13.07	3.00	2.86	2.30	2.11	2.19
6	2.00	5.51	2.44	12.28	3.44	3.22	5.21	3.46	3.39	2.35	2.10	2.13
7	2.00	3.51	2.43	10.97	2.78	3.31	4.43	3.11	3.12	2.32	2.07	2.12
8	2.00	2.94	2.38	10.91	2.64	3.31	4.29	2.88	2.83	2.32	2.06	2.10
9	2.00	2.68	2.36	4.96	2.39	3.09	4.30	2.77	2.61	2.30	2.03	2.10
10	1.98	2.84	2.35	3.87	2.47	4.30	3.93	2.75	2.48	2.27	2.01	2.08
11	1.96	5.95	2.31	3.55	2.49	7.92	3.64	2.71	2.39	2.20	2.00	2.08
12	1.94	4.14	2.30	3.47	2.33	7.00	3.48	2.68	3.36	2.25	1.99	2.09
13	1.91	3.28	2.29	3.45	2.73	5.29	3.39	2.63	2.35	2.17	1.97	2.06
14	1.91	3.21	2.29	3.36	---	7.43	3.30	2.57	2.36	2.18	1.96	9.15
15	1.90	3.52	2.29	3.27	4.18	4.94	3.22	2.52	2.33	2.16	1.95	8.49
16	1.88	5.09	2.27	3.19	5.26	4.01	3.23	2.49	2.29	2.07	1.94	9.62
17	1.88	7.19	2.26	3.16	4.89	3.54	3.09	2.44	2.28	2.18	2.00	3.91
18	2.26	4.31	2.25	3.14	3.85	3.75	3.02	2.41	2.27	2.18	1.99	3.08
19	2.11	4.10	2.25	3.06	3.57	3.47	3.36	2.38	2.27	2.12	2.98	2.71
20	2.09	6.35	2.27	3.01	3.50	9.83	3.32	3.57	2.26	2.11	2.58	2.51
21	2.17	9.28	2.25	2.94	6.14	14.84	3.16	3.54	2.22	2.14	2.52	2.38
22	2.14	6.82	2.23	2.86	5.97	14.36	3.05	3.12	2.26	2.10	3.03	2.32
23	2.18	3.94	3.74	2.87	4.03	5.28	3.00	4.24	2.24	2.11	2.44	2.24
24	2.24	3.41	5.25	2.85	3.63	4.53	3.00	4.68	2.33	2.11	2.46	2.17
25	2.21	3.10	4.41	2.85	3.64	4.08	3.02	3.45	2.30	2.14	3.88	2.17
26	2.18	3.11	3.85	3.94	3.13	3.88	2.94	6.82	2.29	2.35	6.40	2.16
27	2.17	4.04	3.38	4.83	3.12	3.65	2.87	6.85	2.27	2.32	3.60	2.12
28	2.16	4.51	3.51	4.16	3.08	3.56	2.79	4.12	2.27	2.26	2.82	2.12
29	2.13	3.66	5.28	3.63	---	3.49	2.72	4.89	2.25	3.19	2.59	2.10
30	2.14	3.18	4.89	3.41	---	10.94	4.48	4.14	2.77	2.37	2.42	2.09
31	2.23	---	4.12	3.40	---	14.15	---	3.45	---	2.30	2.35	---
MEAN	2.06	4.08	2.93	4.36	---	5.55	4.92	3.40	2.58	2.28	2.48	2.98
MAX	2.26	9.28	5.28	12.28	---	14.84	16.57	6.85	3.82	3.19	6.40	9.62
MIN	1.88	2.17	2.23	2.85	---	2.90	2.72	2.38	2.22	2.07	1.94	2.06

05592900 EAST FORK KASKASKIA RIVER NEAR SANDOVAL, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site OK 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
02...	1200	17002	17002	1.1	484	7.60	8.0	23	4.5	35	K10
DEC											
07...	1200	17002	17002	4.4	377	7.90	5.0	74	9.1	27	K90
JAN											
18...	1200	17002	17002	22	620	7.90	3.0	12	12.2	13	K15
FEB											
21...	1200	17002	17002	234	485	--	3.5	53	11.2	37	350
APR											
19...	1200	17002	17002	24	657	7.80	13.5	12	10.3	17	150
MAY											
23...	1530	17002	17002	68	581	7.30	19.5	1.8	7.2	28	1600
JUN											
28...	0930	17002	17002	0.50	580	7.60	24.0	2.2	3.8	24	K50
AUG											
21...	1200	17002	17002	4.4	516	7.70	22.5	33	7.0	31	2300
SEP											
20...	1200	17002	17002	1.4	177	7.10	18.0	25	7.3	24	230

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
NOV											
02...	170	0	40	38	18	17	39	37	5.5	5.0	171
DEC											
07...	130	58	36	32	14	12	20	18	4.8	4.0	72
JAN											
18...	200	86	52	46	23	21	36	32	2.7	2.3	116
FEB											
21...	150	84	42	36	18	15	25	23	4.6	3.7	68
APR											
19...	240	91	61	55	27	25	38	35	3.3	2.7	150
MAY											
23...	210	71	53	52	20	20	37	37	3.7	3.3	142
JUN											
28...	220	44	55	54	21	21	38	37	6.1	6.4	178
AUG											
21...	160	0	43	38	17	15	38	34	7.5	5.8	160
SEP											
20...	58	16	17	15	5.7	5.0	6.6	6.4	6.1	4.8	42

05592900 EAST FORK KASKASKIA RIVER NEAR SANDOVAL, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)
NOV 02...	34	7	1	<0.100	<0.100	<0.001	--	0.80	--	0.250	0.140
DEC 07...	76	12	2	0.840	0.200	0.002	1.0	1.2	2.0	0.320	0.110
JAN 18...	170	7	3	0.820	0.160	0.001	0.64	0.80	1.6	0.138	0.030
FEB 21...	120	141	10	1.70	0.720	--	1.8	2.5	4.2	0.380	0.140
APR 19...	170	28	4	<0.100	0.100	0.002	1.0	1.1	--	0.100	0.020
MAY 23...	130	78	9	0.460	0.130	0.001	1.9	2.0	2.5	0.180	0.070
JUN 28...	74	7	3	<0.100	0.140	0.003	0.96	1.1	--	0.160	0.080
AUG 21...	59	76	12	<0.100	<0.100	<0.002	--	0.90	--	0.090	0.020
SEP 20...	26	29	5	0.560	0.130	<0.001	0.47	0.60	1.2	0.160	0.070

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)
NOV 02...	400	<50	50	44	<0.5	<0.5	<50	<50	<3	<3	<5
DEC 07...	2500	<50	70	41	<0.5	<0.5	<50	<50	<3	<3	<5
JAN 18...	370	60	70	59	<0.5	<0.5	<50	<50	<3	<3	<5
FEB 21...	2700	60	80	35	<0.5	<0.5	<50	<50	<3	<3	7
APR 19...	750	160	90	71	<0.5	<0.5	<50	<50	<3	<3	<5
MAY 23...	1900	190	90	69	<0.5	<0.5	<50	<50	<3	<3	<5
JUN 28...	390	170	80	71	<0.5	<0.5	<50	<50	<3	<3	<5
AUG 21...	1400	<50	90	79	<0.5	<0.5	<50	<50	<3	<3	<5
SEP 20...	1500	<50	60	36	<0.5	<0.5	<50	<50	<3	<3	<5

05592900 EAST FORK KASKASKIA RIVER NEAR SANDOVAL, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
NOV 02...	<5	<5	<5	<5	<5	1200	250	<5	<5	690	620
DEC 07...	<5	<5	<5	<5	<5	2900	<50	6	<5	240	180
JAN 18...	<5	<5	<5	<5	<5	900	<50	<5	<5	230	200
FEB 21...	<5	<5	<5	<5	<5	3400	56	<5	<5	280	120
APR 19...	<5	<5	<5	<5	<5	1500	67	<5	<5	250	200
MAY 23...	<5	<5	<5	<5	<5	2200	<50	<5	<5	330	180
JUN 28...	<5	<5	<5	<5	<5	560	57	<5	<5	1200	1100
AUG 21...	<5	<5	<5	<5	<5	2000	<50	<5	<5	490	330
SEP 20...	<5	<5	<5	<5	<5	2400	120	<5	<5	210	160

DATE	MERCURY TOTAL RECOVERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI) (01067)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)
NOV 02...	<0.05	<5	<5	<3	<3.0	130	120	<5	<5	<50	<50
DEC 07...	0.12	<5	<5	<3	<3.0	110	94	<5	<5	<50	<50
JAN 18...	<0.05	<5	<5	<3	<3.0	170	160	<5	<5	<50	<50
FEB 21...	<0.05	<5	<5	<3	<3.0	130	110	6	<5	<50	<50
APR 19...	<0.05	9	<5	<3	<3.0	190	170	<5	<5	<50	<50
MAY 23...	<0.05	5	8	<3	<3.0	170	170	<5	<5	<50	<50
JUN 28...	<0.05	<5	<5	<3	<3.0	180	180	<5	<5	<50	<50
AUG 21...	<0.05	<10	6	<3	<3.0	160	150	<5	<5	200	<50
SEP 20...	<0.05	<5	<5	<3	<3.0	50	49	6	<5	<50	<50

KASKASKIA RIVER BASIN

05592990 CARLYLE LAKE NEAR CARLYLE, IL

LOCATION.--Lat 38°37'00", long 89°21'10", in NE1/4 sec.18 T.2 N., R.2 W., Clinton County, Hydrologic Unit 07140202, at dam on Kaskaskia River northeast of Carlyle and at mile 94.2.

DRAINAGE AREA.--2,717 mi^2.

PERIOD OF RECORD.--May 1967 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by a compacted earth embankment section and a concrete gated spillway section with two auxiliary saddle dams along the reservoir rim. Gates first closed Apr. 1, 1967. Gained full pool, elevation, 433.3 ft on May 8, 1967.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 627,780 acre-ft Jan. 7, 1973, elevation, 455.54 ft; minimum observed, 53,600 acre-ft Mar. 28, 1968, elevation, 429.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 375,600 acre-ft May 9, elevation, 448.53 ft; minimum observed, 219,752 acre-ft Oct. 15, elevation, 442.31 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	442.60	226,493	-
Oct. 31	442.36	220,802	-5,691
Nov. 30	444.33	264,383	+43,581
Dec. 31	444.69	272,866	+8,483
CAL YR 1988	-	-	-90,598
Jan. 31	443.62	248,106	-24,760
Feb. 28	443.75	251,015	+2,909
Mar. 31	445.47	291,989	+40,974
Apr. 30	444.95	278,992	-12,997
May 31	446.96	330,787	+51,795
June 30	445.07	281,930	-48,857
July 31	445.06	281,679	-251
Aug. 31	445.05	281,427	-252
Sept. 30	445.06	281,679	+252
WTR YR 1989	-	-	+55,186

05593000 KASKASKIA RIVER AT CARLYLE, IL

LOCATION.--Lat 38°36'42", long 89°21'22" in SE1/4 sec.18, T.2 N., R.2 W., Clinton County, Hydrologic Unit 07140202, on right bank, 300 ft downstream from bridge on U.S. Highway 50 at Carlyle, 16.5 mi upstream from Crooked Creek, and at mile 94.0.

DRAINAGE AREA.--2,719 mi^2.

PERIOD OF RECORD.--March 1908 to September 1912, November to December 1912, August 1914 to September 1915, May 1938 to current year.

REVISED RECORDS.--WSP 975: 1908-12, 1915. WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 402.92 ft above National Geodetic Vertical Datum of 1929. Prior to July 1, 1938, nonrecording gage at site 100 ft downstream at same datum. July 1, 1938, to Sept. 30, 1940, nonrecording gage, and Oct. 1, 1940, to Oct. 4, 1976, water-stage recorder, 300 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since Apr. 1, 1967, by Carlyle Reservoir (station 05592990), 1 mi upstream from gage. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--33 years, 1,944 ft^3/s, 9.71 in/yr, prior to construction of Carlyle Reservoir. 22 years, 2,291 ft^3/s, since construction of Carlyle Reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,400 ft^3/s, May 21, 1943, gage height, 33.69 ft; minimum, 7.3 ft^3/s, Nov. 12, 1964, result of dam construction upstream; minimum unregulated discharge, 11 ft^3/s, Sept. 17, 1954. Maximum daily discharge since construction of Carlyle Reservoir, 10,700 ft^3/s, Apr. 15, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,120 ft^3/s, Mar. 24, gage height, 22.01 ft; minimum daily, 8.8 ft^3/s, Oct. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	45	42	1740	828	899	4460	1620	1830	1400	109	90
2	82	45	41	1730	707	565	4270	2060	2440	1400	95	91
3	79	45	42	1730	715	421	4120	1720	2870	1410	94	90
4	88	57	42	1740	713	419	3950	1520	3020	1400	95	89
5	87	45	42	1790	712	425	3940	1520	3510	1400	94	89
6	77	45	42	2170	541	427	3840	1510	3730	1390	93	90
7	84	46	42	2950	295	425	3700	1510	3740	1310	93	91
8	92	46	42	2740	273	422	3870	1510	3720	1180	87	93
9	94	46	42	2600	287	419	4830	1510	3690	1040	85	94
10	84	47	42	2950	290	442	5920	1610	3650	950	84	95
11	73	44	40	3630	289	440	6720	1720	3480	947	87	312
12	72	46	162	3620	288	428	6780	1530	3040	951	87	1260
13	57	46	351	2840	302	865	6640	1530	2550	1050	86	1940
14	62	45	311	3040	475	1650	6410	1530	2400	1140	86	1720
15	78	45	265	3290	824	1860	5980	1530	2210	1140	85	1280
16	71	56	267	2910	1200	2360	5640	1530	1860	1150	86	1990
17	42	43	262	3140	1380	3010	5360	1530	1680	1060	87	2010
18	13	44	261	2860	1370	3020	5040	1530	1380	955	86	2120
19	8.8	52	262	2570	1360	3010	4520	1490	1570	869	87	2340
20	37	66	428	2190	1360	3290	3990	1420	1920	800	84	2190
21	51	45	520	1640	1380	3540	3540	1400	1910	871	84	1750
22	50	42	141	1460	1370	4550	3040	1410	1680	964	85	1320
23	55	42	136	1280	1370	6070	2230	1750	1280	870	94	1180
24	51	43	135	1010	1350	6900	1580	2280	1100	783	97	1180
25	52	42	134	807	1340	6740	1270	1990	1090	787	92	1040
26	47	46	134	833	1340	6690	1080	1780	1080	791	91	756
27	46	43	133	1070	1340	6460	955	1890	1080	703	91	563
28	46	42	542	1590	1200	6030	1020	1380	1120	538	91	478
29	44	42	1270	1840	---	5560	1200	1090	1320	391	91	286
30	44	42	1740	1600	---	5100	1340	1550	1400	211	91	126
31	44	---	1750	1140	---	4750	---	1560	---	119	92	---
TOTAL	1898.8	1383	9663	66500	24899	87187	117235	49510	67350	29970	2789	26753
MEAN	61.3	46.1	312	2145	889	2812	3908	1597	2245	967	90.0	892
MAX	94	66	1750	3630	1380	6900	6780	2280	3740	1410	109	2340
MIN	8.8	42	40	807	273	419	955	1090	1080	119	84	89

CAL YR 1988 TOTAL 578510.7 MEAN 1581 MAX 9950 MIN 7.9
WTR YR 1989 TOTAL 485137.8 MEAN 1329 MAX 6900 MIN 8.8

05593010 KASKASKIA RIVER BELOW CARLYLE, IL

LOCATION.--Lat 38°34'28", long 89°22'09", in NE1/4 sec.31, T.2 N., R.2 W., Clinton County, Hydrologic Unit 07140202, at bridge on State Highway 127, 5.6 mi south of Carlyle, 6.3 mi downstream from Carlyle Lake, and at mile 87.8.

DRAINAGE AREA.--2,734 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1958-77 are published in Water-Resources Investigations 78-24 and 79-25 as site O 07.

REMARKS.--Water-discharge records from Kaskaskia River at Carlyle (station 05593000) were used to compute discharges for this station.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV											
01...	1100	17002	17002	46	418	8.30	9.0	7.3	10.9	21	K60
DEC											
15...	1100	17002	17002	267	427	7.70	2.5	15	12.8	14	2100
JAN											
26...	1100	17002	17002	846	419	7.90	4.0	9.3	13.8	21	570
FEB											
02...	1100	17002	17002	706	399	8.60	5.0	10	13.1	22	<20
MAR											
23...	1100	17002	17002	5830	431	8.30	6.0	13	12.9	19	<10
MAY											
24...	1000	17002	17002	2030	418	7.80	19.0	6.8	9.0	17	K30
JUN											
27...	1630	17002	17002	1080	442	7.70	26.5	9.1	7.9	17	K20
AUG											
17...	1100	17002	17002	88	436	7.50	23.5	13	6.9	15	K30
SEP											
25...	0900	17002	17002	1160	417	8.00	18.0	3.7	9.1	16	K15

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)
NOV											
01...	180	180	42	38	24	21	19	17	2.5	2.1	18
DEC											
15...	170	180	40	37	22	20	17	16	2.7	2.3	9
JAN											
26...	150	150	36	32	19	17	16	15	2.2	1.8	12
FEB											
02...	170	170	36	36	20	20	16	16	2.0	1.9	19
MAR											
23...	170	170	40	36	22	20	17	15	2.3	2.0	31
MAY											
24...	170	170	39	38	17	17	15	15	2.1	2.3	27
JUN											
27...	190	190	43	41	23	22	16	15	2.8	3.6	45
AUG											
17...	160	170	37	33	22	20	13	12	2.0	1.4	27
SEP											
25...	180	180	38	35	24	22	13	13	2.8	2.5	26

05593010 KASKASKIA RIVER BELOW CARLYLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
NOV											
01...	5	0.180	<0.100	<0.004	--	1.3	1.5	0.150	0.080	510	<50
DEC											
15...	2	0.210	<0.100	<0.001	--	5.8	6.0	0.140	0.120	430	<50
JAN											
26...	4	0.100	<0.100	<0.001	--	1.0	1.1	0.070	0.020	240	80
FEB											
02...	7	0.320	<0.100	<0.005	--	0.80	1.1	0.120	0.020	280	60
MAR											
23...	6	0.450	0.140	0.004	0.76	0.90	1.3	0.080	0.030	380	<50
MAY											
24...	5	0.990	0.340	0.008	1.1	1.4	2.4	0.100	0.060	780	220
JUN											
27...	5	1.20	0.190	0.006	0.61	0.80	2.0	0.090	0.020	960	190
AUG											
17...	4	0.950	<0.100	<0.002	--	0.60	1.6	0.190	0.120	550	<50
SEP											
25...	4	0.390	<0.100	<0.004	--	0.70	1.1	0.190	0.140	920	80

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
NOV											
01...	70	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
DEC											
15...	50	45	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JAN											
26...	50	43	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
FEB											
02...	50	47	<0.5	<0.5	<50	<50	<3	<3	6	<5	<5
MAR											
23...	10	<5	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<10
MAY											
24...	70	55	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
JUN											
27...	80	60	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
AUG											
17...	80	58	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
SEP											
25...	80	66	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5

05593010 KASKASKIA RIVER BELOW CARLYLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV 01...	<5	<5	<5	780	<50	<5	<5	240	57	<0.05	<10
DEC 15...	<5	<5	<5	400	<50	<5	<5	100	17	<0.05	<5
JAN 26...	<5	20	<5	230	<50	<5	<5	80	8	<0.05	8
FEB 02...	<5	<5	<5	320	<50	<5	<5	96	8	0.10	<5
MAR 23...	<10	<5	<5	500	<50	<5	<5	160	<5	<0.05	<5
MAY 24...	<5	<5	<5	800	<50	<5	<5	200	16	<0.05	<5
JUN 27...	<5	<5	<5	1100	<50	<5	<5	360	59	<0.05	<5
AUG 17...	<5	<5	<5	820	<50	<5	<5	230	50	<0.05	<5
SEP 25...	<5	<5	<5	820	<50	<5	<5	110	8	<0.05	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 01...	<10	<3	<3.0	120	110	110	--	<50	<50	11
DEC 15...	<5	<3	<3.0	120	110	<5	<5	<50	<50	6.9
JAN 26...	<5	<5	<3.0	110	100	<5	<5	<50	<50	7.0
FEB 02...	<5	6	<5.0	110	110	5	<5	<50	<50	6.7
MAR 23...	<5	<3	<3.0	110	96	<5	<5	<50	<50	7.5
MAY 24...	<5	<3	<3.0	120	120	<5	<5	<50	<50	7.2
JUN 27...	<5	<3	<3.0	120	120	<5	<5	<50	<50	6.6
AUG 17...	<5	<3	<3.0	120	100	<5	<5	<50	<50	5.6
SEP 25...	<5	<3	<3.0	120	110	6	<5	<50	<50	7.1

05593520 CROOKED CREEK NEAR HOFFMAN, IL

LOCATION.--Lat 38°30'25", long 89°16'24", in NE1/4 sec.26, T.1 N., R.2 W., Washington County, Hydrologic Unit 07140202, on left bank at downstream side on Hoyleton Road bridge, 2.2 mi southwest of Hoffman, 4.8 mi southeast of Posey, about 9 mi above State Highway 127, and at mile 20.9.

DRAINAGE AREA.--254 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year. Gage-height record for October 1968 to September 1974 available in files of Illinois district office.

GAGE.--Water-stage recorder. Datum of gage is 420.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--15 years, 220 ft^3/s, 11.76 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,400 ft^3/s, Nov. 20, 1985, gage height, 16.37 ft; no flow for several days in 1989.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	0630	3,550	13.89	Apr. 5	Unknown	*5,230	*14.42
Mar. 31	Unknown	3,000	Unknown				

No flow Sept. 24, 25, 28-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	6.5	31	63	33	e27	e1500	e25	e70	26	3.9	.89
2	54	6.3	20	55	31	e25	e1000	13	e45	17	4.1	1.2
3	19	7.9	15	93	344	e25	e3000	13	e30	11	3.8	.98
4	8.1	8.5	11	426	348	123	e4000	14	e25	7.7	4.1	.52
5	4.3	57	8.9	675	116	44	e5000	15	50	6.0	4.9	.26
6	3.3	120	7.0	1830	e50	57	e3000	14	163	5.4	4.1	.36
7	2.8	127	6.2	2050	e40	92	749	13	120	5.4	3.6	.40
8	2.1	58	5.3	2000	e30	55	202	12	117	5.0	3.1	.73
9	1.7	29	4.6	1040	e25	56	127	13	36	4.4	3.1	.72
10	1.2	24	4.0	176	e20	202	106	14	23	4.1	3.0	.34
11	.83	32	3.3	80	e15	711	87	14	17	4.0	3.0	.23
12	.72	37	2.7	89	e15	537	70	12	15	4.0	2.8	.12
13	.69	63	2.4	56	34	184	60	10	43	3.7	2.8	.04
14	.58	56	2.3	41	590	218	53	9.8	22	4.5	3.0	79
15	.55	41	2.1	39	762	216	50	9.1	14	4.1	2.8	121
16	.55	111	1.7	37	1020	99	e47	8.0	11	3.6	3.2	81
17	.85	204	1.8	34	605	64	e45	7.9	9.9	3.5	4.9	41
18	3.4	200	1.5	29	165	48	e60	6.9	8.9	3.5	4.0	16
19	8.5	114	1.7	27	99	40	e90	e150	9.6	3.6	3.5	8.0
20	18	240	1.6	24	214	803	e70	e1000	11	3.8	3.6	3.1
21	24	649	1.3	21	535	3130	e55	e300	11	4.1	5.1	.87
22	15	528	1.7	19	693	2980	e45	e150	9.0	4.9	14	.28
23	11	148	11	16	186	e1000	e35	195	8.2	4.5	10	.07
24	12	60	27	14	79	e400	e28	e300	7.7	4.6	11	.00
25	8.9	36	34	15	49	e200	25	e600	7.2	13	7.7	.00
26	6.9	81	44	40	42	e120	e22	e250	6.7	19	5.2	.02
27	7.0	165	39	96	e35	e80	e20	e150	6.5	13	3.0	.13
28	5.9	124	43	102	e30	e60	e18	e100	24	7.0	2.3	.00
29	11	89	60	73	---	e300	e30	e500	151	5.3	2.3	.00
30	9.9	51	93	51	---	e500	e50	e300	55	4.9	1.4	.00
31	8.4	---	90	40	---	e2700	---	e150	---	4.5	.50	---
TOTAL	265.17	3473.2	578.1	9351	6205	15096	19644	4368.7	1126.7	215.1	133.80	357.26
MEAN	8.55	116	18.6	302	222	487	655	141	37.6	6.94	4.32	11.9
MAX	54	649	93	2050	1020	3130	5000	1000	163	26	14	121
MIN	.55	6.3	1.3	14	15	25	18	6.9	6.5	3.5	.50	.00
CFSM	.03	.46	.07	1.19	.87	1.92	2.58	.55	.15	.03	.02	.05
IN.	.04	.51	.08	1.37	.91	2.21	2.88	.64	.17	.03	.02	.05

CAL YR 1988 TOTAL 68776.47 MEAN 188 MAX 5440 MIN .55 CFSM .74 IN. 10.07
WTR YR 1989 TOTAL 60814.03 MEAN 167 MAX 5000 MIN .00 CFSM .66 IN. 8.91

e Estimated

05593520 CROOKED CREEK NEAR HOFFMAN, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT 20...	0900	17002	17002	13	813	7.40	12.0	3.1	5.0	38	K1100	160
NOV 21...	0900	17002	17002	619	309	7.70	6.5	160	8.5	47	K700	73
JAN 03...	0900	17002	17002	73	792	8.00	0.5	21	11.9	27	<10	210
FEB 07...	0900	17002	17002	40	600	7.60	0.0	64	12.6	37	<10	130
MAR 21...	0900	17002	17002	3180	232	7.00	5.0	170	9.6	46	K600	50
APR 25...	0900	17002	17002	25	1010	6.70	20.5	17	--	24	K50	270
MAY 23...	1100	17002	17002	195	495	--	18.0	46	--	35	5300	120
JUN 27...	1100	17002	17002	6.6	778	7.40	26.0	2.9	5.0	33	K300	180
AUG 01...	0900	17002	17002	3.9	679	7.20	25.5	56	3.0	29	K80	130
SEP 13...	0900	17002	17002	0.04	1380	7.20	20.5	12	4.2	24	<10	220

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT 20...	42	42	39	15	14	110	98	14	13	113	130
NOV 21...	73	25	19	8.4	6.2	26	22	6.1	4.2	<10	38
JAN 03...	120	58	52	22	20	76	70	7.3	6.5	94	180
FEB 07...	80	39	34	14	12	53	48	4.7	4.0	55	94
MAR 21...	58	19	15	6.5	4.9	14	12	3.7	2.7	<10	43
APR 25...	110	69	64	28	26	100	94	5.8	5.2	153	190
MAY 23...	60	36	35	9.6	9.0	41	41	5.8	5.1	65	83
JUN 27...	47	48	46	17	16	86	83	8.7	9.3	134	100
AUG 01...	40	37	34	14	12	78	72	8.8	8.0	95	63
SEP 13...	110	60	54	22	20	180	160	14	12	112	83

05593520 CROOKED CREEK NEAR HOFFMAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)
OCT											
20...	87	447	76	9	11.0	<0.100	<0.001	5.60	5.30	1400	<50
NOV											
21...	37	127	150	21	0.720	0.160	0.001	0.830	0.400	7700	<50
JAN											
03...	95	476	13	4	1.90	0.450	0.004	0.670	0.550	630	<50
FEB											
07...	80	306	22	3	0.900	0.120	<0.001	0.390	0.220	1400	<50
MAR											
21...	18	96	152	16	0.840	0.340	<0.001	0.430	0.100	5300	250
APR											
25...	120	596	39	6	1.10	<0.100	<0.001	0.500	0.380	930	120
MAY											
23...	50	263	147	17	1.50	0.560	--	0.350	0.230	4000	190
JUN											
27...	87	423	58	10	2.30	<0.100	<0.002	1.50	1.30	2700	170
AUG											
01...	98	345	145	20	0.620	0.180	0.002	1.30	1.00	3200	90
SEP											
13...	300	698	46	5	2.80	<0.100	<0.001	2.10	1.70	1400	60

DATE	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)
OCT											
20...	50	26	<0.5	<0.5	210	200	<3	<3	6	<5	<5
NOV											
21...	90	27	<0.5	<0.5	<50	<50	<3	<3	7	<5	<5
JAN											
03...	60	44	<0.5	<0.5	70	60	<3	<3	5	<5	<5
FEB											
07...	100	79	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
MAR											
21...	40	<5	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5
APR											
25...	90	75	<0.5	<0.5	100	90	--	--	<5	<5	<5
MAY											
23...	100	55	<0.5	<0.5	60	--	<3	<3	<5	<5	<5
JUN											
27...	80	49	<0.5	<0.5	150	140	<3	<3	<5	<5	<5
AUG											
01...	70	34	<0.5	<0.5	120	110	<3	<3	<5	<5	<5
SEP											
13...	70	54	<0.5	<0.5	190	170	<3	<3	<5	<5	<5

05593520 CROOKED CREEK NEAR HOFFMAN, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT 20...	<5	<5	<5	1800	<50	<5	<5	240	180	<0.05	9
NOV 21...	<5	30	<5	7400	<50	9	<5	290	81	<0.05	<5
JAN 03...	<5	<5	<5	740	<50	<5	<5	110	87	0.09	5
FEB 07...	<5	<5	<5	1700	88	<5	<5	190	130	<0.05	<5
MAR 21...	<10	<5	<5	6000	310	8	<5	350	110	<0.05	<5
APR 25...	<5	<5	<5	1200	<50	<5	<5	390	260	<0.05	<5
MAY 23...	<5	6	<5	4200	<50	8	<5	360	170	<0.05	8
JUN 27...	<5	<5	<5	2700	<50	<5	<5	750	600	<0.05	5
AUG 01...	<5	<5	--	3400	<50	5	<5	770	610	<0.05	11
SEP 13...	<5	<5	<5	1500	<50	<5	<5	490	410	<0.05	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT 20...	6	<3	<3.0	200	180	<5	<5	<50	<50	15	4
NOV 21...	<5	<3	<3.0	140	110	12	<5	<100	<100	20	1
JAN 03...	<5	<3	<3.0	270	250	<5	<5	<50	<50	13	1
FEB 07...	<5	<3	<3.0	290	250	<5	<5	<50	<50	19	<1
MAR 21...	<5	<3	<3.0	80	60	<10	<10	<50	<50	17	2
APR 25...	<5	<3	<3.0	370	340	<5	<5	<50	<50	9.9	1
MAY 23...	7	<3	<3.0	190	180	11	<5	<50	<50	14	<1
JUN 27...	7	<3	<3.0	250	230	9	7	<50	<50	12	--
AUG 01...	--	<3	<3.0	220	190	9	<5	<50	<50	11	--
SEP 13...	<5	<3	<3.0	430	390	7	<5	<50	<50	9.8	--

05593575 LITTLE CROOKED CREEK NEAR NEW MINDEN, IL

LOCATION.--Lat 38°26'30", long 89°25'00", in center of sec.15, T.1 S., R.3 W., Washington County, Hydrologic Unit 07140202, on right bank at upstream side of bridge on State Highway 177, 2.5 mi west of New Minden, 7.0 mi northwest of Nashville, and at mile 10.6.

DRAINAGE AREA.--84.3 mi^2.

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to July 2, 1973, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--22 years, 70.9 ft^3/s, 11.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft^3/s, Dec. 21, 1967, gage height, 21.00 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 21	0230	2,620	17.22	Apr. 4	0330	*5,650	*19.14
Mar. 31	0715	2,040	16.65				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	1.9	e6.0	11	9.1	e6.0	525	e12	19	.86	e1.5	.00
2	46	1.9	e5.0	18	10	e5.5	229	e8.0	18	.73	e1.0	.00
3	7.4	1.9	e4.0	165	432	e5.0	2050	e6.0	17	e.70	.40	.00
4	2.3	2.8	e3.5	363	64	e6.0	3750	e5.0	17	e.60	.83	.00
5	1.1	48	e3.0	209	23	11	528	e6.0	40	e.50	.62	.00
6	.63	e25	e2.5	1150	e15	20	55	e4.5	33	e.50	.43	.00
7	.45	e15	e2.0	587	e12	12	42	e3.5	15	e.40	.33	.10
8	.43	e10	e1.5	60	e10	9.9	39	e3.0	11	e.40	.17	.22
9	.42	e8.0	e1.0	27	e9.0	19	37	e3.5	9.1	e.30	.05	.23
10	.31	e7.0	e.70	14	e8.0	141	30	e4.0	8.6	e.30	.00	.15
11	.25	e8.0	e.50	12	e7.0	331	28	e3.0	8.5	e.20	.00	.16
12	.27	e20	e.40	12	e20	57	e25	e2.5	20	e.20	.00	.14
13	.26	e13	e.30	12	99	26	e23	e2.2	53	e.20	.00	.15
14	.26	e10	e.20	11	625	20	e21	e2.0	8.4	e.10	.00	128
15	.28	e9.0	e.10	11	241	15	e20	e1.8	4.6	.09	.00	46
16	.30	100	e.10	12	376	10	e19	e1.6	3.4	.00	.00	1.9
17	.33	64	e.10	12	51	8.6	e18	e1.5	2.9	.00	.00	.24
18	.40	12	e.10	10	29	7.8	e35	e1.5	2.7	.00	.00	.00
19	.40	9.4	e.10	8.9	23	7.0	e25	e10	2.6	.00	.00	.00
20	.57	342	e.10	8.4	94	765	e20	44	e2.5	.10	46	.00
21	.87	255	e.30	6.8	473	1810	e15	e20	e2.4	.44	19	.00
22	.89	e50	e1.0	6.0	64	234	e12	e10	e2.3	1.2	3.8	.00
23	1.1	e20	25	5.7	22	39	e10	28	e2.2	1.4	1.6	.00
24	1.3	e15	12	5.5	12	27	e8.0	e16	e2.1	1.2	.27	.00
25	1.5	e10	7.9	6.1	10	21	e7.0	e10	e2.0	e5.0	.00	.00
26	1.8	e80	5.2	59	e8.0	17	e6.0	e6.0	e1.8	e10	.00	.00
27	1.8	e30	4.0	60	e7.0	14	e5.0	e5.0	1.6	e6.0	.00	.15
28	1.6	e15	10	21	e6.5	13	e5.0	e6.0	61	e4.0	.00	.33
29	1.5	e10	31	13	---	42	e10	364	3.6	e3.0	.00	.15
30	1.4	e8.0	20	11	---	1310	e20	38	1.3	e2.5	.00	.00
31	1.9	---	15	10	---	1780	---	23	---	e2.0	.00	---
TOTAL	78.35	1201.9	162.60	2917.4	2759.6	6789.8	7617.0	651.6	376.6	42.92	76.00	177.92
MEAN	2.53	40.1	5.25	94.1	98.6	219	254	21.0	12.6	1.38	2.45	5.93
MAX	46	342	31	1150	625	1810	3750	364	61	10	46	128
MIN	.25	1.9	.10	5.5	6.5	5.0	5.0	1.5	1.3	.00	.00	.00
CFSM	.03	.48	.06	1.12	1.17	2.60	3.01	.25	.15	.02	.03	.07
IN.	.03	.53	.07	1.29	1.22	3.00	3.36	.29	.17	.02	.03	.08

CAL YR 1988 TOTAL 22526.82 MEAN 61.5 MAX 3100 MIN .00 CFSM .73 IN. 9.94
WTR YR 1989 TOTAL 22851.69 MEAN 62.6 MAX 3750 MIN .00 CFSM .74 IN. 10.08

e Estimated

05593785 SHOAL CREEK NEAR WALSHVILLE, IL

LOCATION.--Lat 39°03'48", long 89°32'43", in NW1/4SW1/4 sec.9, T.7 N., R.4 W., Montgomery County, Hydrologic Unit 07140203, at bridge on county road, 2.6 mi northwest of Panama, 4.0 mi east of Walshville, and at mile 79.3.

DRAINAGE AREA.--281 mi^2.

PERIOD OF RECORD.--Water years 1982 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
26...	1000	17002	17002	43	701	7.70	6.0	11	12.1	17	K10
DEC											
01...	0900	17002	17002	39	653	7.60	2.0	6.1	13.5	14	270
JAN											
03...	0900	17002	17002	74	660	7.50	2.0	6.4	14.1	11	K15
FEB											
14...	0930	17002	17002	88	679	8.20	1.0	4.2	14.8	14	K28
MAR											
23...	0930	17002	17002	380	424	8.10	6.0	17	12.8	18	K20
MAY											
02...	0930	17002	17002	210	388	7.80	14.5	15	8.9	24	K350
31...	0900	17002	17002	340	382	7.40	20.5	63	7.8	23	K700
JUL											
18...	0900	17002	17002	3.6	696	7.60	23.0	1.9	10.9	15	350
AUG											
28...	0900	17002	17002	6.6	600	7.30	25.0	3.0	6.0	16	K85

DATE	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)
OCT											
26...	240	36	57	57	23	24	54	54	6.4	6.5	206
DEC											
01...	280	96	67	69	26	27	34	35	4.2	4.2	188
JAN											
03...	260	72	65	63	26	26	29	28	2.9	2.8	193
FEB											
14...	290	89	71	69	29	28	36	35	3.3	3.1	199
MAR											
23...	180	56	44	44	17	17	17	16	2.8	2.7	124
MAY											
02...	150	41	41	37	16	14	16	15	3.8	3.7	109
31...	140	49	40	38	12	11	14	14	4.0	3.4	92
JUL											
18...	230	37	59	57	23	22	37	36	5.0	6.0	196
AUG											
28...	200	34	50	49	21	20	41	41	5.6	5.5	171

05593785 SHOAL CREEK NEAR WALSHVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
OCT											
26...	78	1	1	1.60	<0.100	<0.001	1.40	1.40	90	<50	40
DEC											
01...	120	13	3	2.00	0.520	0.002	0.591	0.420	320	<50	60
JAN											
03...	130	12	5	1.80	0.320	0.001	0.390	0.260	230	70	70
FEB											
14...	120	13	2	1.80	0.250	0.004	0.440	0.350	360	<50	60
MAR											
23...	67	32	3	0.610	0.120	0.002	0.140	0.060	510	60	30
MAY											
02...	58	70	9	1.60	<0.100	<0.002	0.240	0.120	1400	150	80
31...	48	124	13	1.70	0.170	0.002	0.200	0.120	3400	250	100
JUL											
18...	65	6	2	2.20	<0.100	<0.002	0.580	0.530	210	50	50
AUG											
28...	57	10	1	2.10	0.120	0.001	0.780	0.730	250	60	50

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
OCT											
26...	38	<0.5	<0.5	310	310	<3	<3	<5	<5	<5	<5
DEC											
01...	56	<0.5	<0.5	240	--	<3	<3	<5	<5	<5	<5
JAN											
03...	61	<0.5	<0.5	140	140	<3	<3	<5	<5	<5	<5
FEB											
14...	48	<0.5	<0.5	120	120	<3	<3	<5	<5	<5	<5
MAR											
23...	17	<0.5	<0.5	<50	--	<3	<3	<5	<5	<10	<10
MAY											
02...	58	<0.5	<0.5	50	<50	--	--	<5	<5	<5	<5
31...	68	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
JUL											
18...	49	<0.5	<0.5	140	140	<3	<3	<5	<5	<5	<5
AUG											
28...	45	<0.5	<0.5	220	210	<3	<3	<5	<5	<5	<5

05593785 SHOAL CREEK NEAR WALSHVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT										
26...	<5	<5	150	59	<5	<5	40	39	<0.05	<10
DEC										
01...	<5	<5	650	<50	<5	<5	700	700	<0.05	<5
JAN										
03...	<5	<5	550	<50	<5	<5	480	460	0.05	<5
FEB										
14...	<5	<5	880	110	<5	<5	570	520	<0.05	7
MAR										
23...	<5	<5	750	<50	<5	<5	170	96	<0.05	<5
MAY										
02...	<5	<5	1800	<50	<5	<5	210	68	<0.05	<5
31...	<5	<5	3800	<50	<5	<5	250	53	<0.05	<5
JUL										
18...	<5	<5	280	<50	<5	<5	430	380	<0.05	<5
AUG										
28...	<5	<5	310	<50	<5	<5	280	210	<0.05	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT										
26...	<10	<3	<3.0	130	130	190	--	<50	<50	8.2
DEC										
01...	<5	<3	<3.0	150	--	<5	<5	510	400	7.1
JAN										
03...	<5	<3	<3.0	160	150	<5	<5	450	360	6.3
FEB										
14...	<5	<3	<3.0	160	160	<5	<5	260	170	6.8
MAR										
23...	<5	<3	<3.0	110	110	<5	<5	<100	<100	6.9
MAY										
02...	<5	<3	<3.0	110	100	5	6	<50	<50	7.5
31...	<5	<3	<3.0	120	110	8	<5	100	<50	9.5
JUL										
18...	<5	<3	<3.0	140	140	<5	<5	<50	<50	7.5
AUG										
28...	<5	<3	<3.0	130	120	5	<5	<100	<100	7.2

05593900 EAST FORK SHOAL CREEK NEAR COFFEEN, IL

LOCATION.--Lat 39°08'56", long 89°21'08", in NW1/4SE1/4 sec.7, T.8 N., R.2 W., Montgomery County, Hydrologic Unit 07140203, on right bank at downstream side of county highway bridge, 4.5 mi northeast of Coffeen, 6.5 mi east of Hillsboro, and at mile 39.3.

DRAINAGE AREA.--55.5 mi^2.

PERIOD OF RECORD.--October 1963 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 574.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--26 years, 40.4 ft^3/s, 9.88 ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,910 ft^3/s, Dec. 7, 1966, gage height, 14.45 ft, from rating curve extended above 2,200 ft^3/s; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	1445	1,010	10.20	May 25	1915	*1,260	*10.88
Apr. 3	2345	1,090	10.49				

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.1	2.8	8.1	e4.0	29	5.8	5.2	.65	.00	.17
2	.00	.00	1.1	2.5	7.6	e3.8	150	4.5	4.2	.57	.00	.11
3	.00	.00	1.1	2.9	8.8	e4.3	567	4.2	4.6	.52	.00	.02
4	.00	.00	.95	4.4	7.1	e5.0	668	4.6	3.9	.44	.00	.00
5	.00	.00	.66	65	e6.0	6.9	74	7.1	3.4	.38	.00	.13
6	.00	.00	.75	325	e5.5	8.3	43	8.5	3.0	.30	.00	.64
7	.00	.00	.82	133	e5.0	7.1	35	9.3	2.7	.23	.00	.02
8	.00	.00	.84	93	e4.8	5.4	33	e6.0	2.2	.15	.00	37
9	.00	.00	.92	17	e4.5	5.3	29	6.4	1.9	.10	.00	473
10	.00	94	e.70	11	e4.2	17	20	3.6	1.6	.05	.00	65
11	.00	14	e.50	9.2	e4.0	258	17	3.9	1.4	.02	.00	13
12	.00	12	e.40	9.4	e4.2	216	15	3.4	1.4	.01	.00	4.4
13	.00	17	e.40	7.9	5.8	179	13	3.1	1.4	.06	.00	2.7
14	.00	13	e.40	6.9	8.2	74	12	2.9	1.4	.04	.00	62
15	.00	12	e.40	6.6	17	33	11	2.5	1.2	.01	.00	50
16	.00	318	e.40	6.6	26	17	10	2.3	1.1	.00	.48	38
17	.00	24	e.30	6.2	16	13	8.8	2.1	1.0	.00	.02	10
18	.00	4.0	e.30	6.1	11	11	8.3	2.1	1.0	.00	.00	4.7
19	.00	3.6	e.30	5.7	8.7	9.0	7.9	12	1.0	.00	.00	2.7
20	.00	284	e.30	4.8	20	487	7.0	13	1.0	1.4	18	1.9
21	.00	100	e.60	4.2	54	253	6.6	6.7	1.0	.34	4.9	1.4
22	.00	11	67	3.9	19	41	6.4	3.5	.72	.15	.39	1.2
23	.00	4.7	175	3.7	10	23	7.1	4.3	.69	.09	.09	.79
24	.00	3.2	12	3.9	e6.5	17	7.0	4.7	.73	.05	2.1	.65
25	.00	2.3	4.5	12	e5.5	13	6.6	338	.69	.06	.80	.62
26	.00	4.3	3.1	51	e5.0	11	5.7	458	.66	.04	.13	.42
27	.00	6.7	37	32	e4.5	10	6.0	37	1.7	.02	.04	.35
28	.00	3.7	44	14	e4.3	12	5.5	15	2.4	.00	.05	.36
29	.00	2.1	23	13	---	12	15	43	1.3	.00	.12	.34
30	.00	1.5	6.0	12	---	14	12	14	.98	.06	.02	.49
31	.00	---	3.2	9.9	---	80	---	7.2	---	.02	.08	---
TOTAL	0.00	935.10	388.04	885.6	291.3	1850.1	1835.9	1038.7	55.47	5.76	27.22	772.11
MEAN	.00	31.2	12.5	28.6	10.4	59.7	61.2	33.5	1.85	.19	.88	25.7
MAX	.00	318	175	325	54	487	668	458	5.2	1.4	18	473
MIN	.00	.00	.30	2.5	4.0	3.8	5.5	2.1	.66	.00	.00	.00
CFSM	.00	.56	.23	.51	.19	1.08	1.10	.60	.03	.00	.02	.46
IN.	.00	.63	.26	.59	.20	1.24	1.23	.70	.04	.00	.02	.52

CAL YR 1988 TOTAL 10055.29 MEAN 27.5 MAX 1400 MIN .00 CFSM .50 IN. 6.74
WTR YR 1989 TOTAL 8085.30 MEAN 22.2 MAX 668 MIN .00 CFSM .40 IN. 5.42

e Estimated

05594000 SHOAL CREEK NEAR BREESE, IL

LOCATION.--Lat 38°36'35", long 89°29'40", in SW1/4SW1/4 sec.13, T.2 N., R.4 W., Clinton County, Hydrologic Unit 07140203, on right bank at upstream side of bridge on U.S. Highway 50, 0.4 mi upstream from Baltimore & Ohio Railroad, 1.7 mi east of Breese, 7 mi upstream from Beaver Creek, and at mile 21.3.

DRAINAGE AREA.--735 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1909 to December 1912, August to December 1914, October 1945 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 413.97 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 8, 1914, chain gage at site 0.4 mi downstream at different datum. Oct. 1, 1945, to Oct. 10, 1968, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. About 0.4 ft^3/s diverted 20 ft above station for municipal supply of Breese is not included in records. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--46 years (water years 1911-12, 1946-89), 529 ft^3/s, 9.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,100 ft^3/s, Jan. 6, 1950, gage height, 22.63 ft, from graph based on gage readings; maximum gage height, 23.02 ft, Apr. 14, 1979, during period of constricted channel due to bridge construction; no flow for many days in 1954-56, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1943, reached a stage of 25.6 ft, present site and datum, discharge, 52,000 ft^3/s on basis of contracted opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 23	1330	4,120	16.59	Apr. 7	0345	*4,440	*16.78

No flow Oct. 14-17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	e6.0	e45	e180	162	e85	1480	497	806	34	26	51
2	2.1	e6.0	e35	e160	157	e80	1060	374	728	31	21	43
3	2.3	e7.0	e32	134	150	e80	2400	260	492	29	18	64
4	3.3	25	e31	130	157	e90	3260	196	336	30	17	84
5	3.4	150	e30	190	127	118	3590	164	292	29	15	53
6	2.3	e170	e30	1170	e100	128	4100	157	252	28	15	36
7	1.1	e30	e28	2500	e90	121	4190	152	214	29	15	28
8	.70	e15	e26	2270	e80	115	2410	141	185	29	12	22
9	1.0	e30	e24	1310	e75	138	1210	131	165	28	12	26
10	1.1	e200	e22	602	e70	150	808	125	149	26	13	1520
11	1.1	e300	e21	347	e70	425	612	125	135	26	13	1370
12	.60	e350	e20	e230	e75	1230	482	123	125	29	12	526
13	.15	e260	e19	e200	92	1710	392	113	116	31	10	210
14	.00	e100	e18	e180	102	1200	328	103	107	34	7.0	923
15	.00	e80	e17	170	119	986	282	97	100	24	7.1	1040
16	.00	100	e16	154	164	600	242	92	84	20	8.0	735
17	.00	509	e15	148	214	414	222	87	73	19	23	431
18	28	e700	e15	134	200	337	199	85	66	21	18	305
19	33	e500	e15	115	144	276	351	87	61	23	22	172
20	20	e300	e20	108	133	1560	349	199	55	28	15	98
21	11	1250	e20	126	188	3120	201	557	49	41	13	71
22	6.7	e1500	e40	128	445	3440	167	258	47	134	243	57
23	6.1	e500	e100	115	362	3830	166	153	42	56	104	46
24	7.9	e150	e600	96	182	2520	162	139	38	43	38	39
25	18	e100	e300	88	130	1120	161	135	36	34	496	35
26	19	e70	e200	245	e110	695	147	579	35	28	321	32
27	13	e75	e150	778	e100	535	137	2300	71	27	105	28
28	e10	e100	e300	639	e90	424	139	2120	82	34	71	24
29	e8.0	e80	e500	e500	---	408	142	1270	42	206	55	22
30	e6.0	e60	e300	e350	---	617	174	2570	40	50	73	19
31	e6.0	---	e220	e250	---	1310	---	1890	---	63	74	---
TOTAL	214.45	7663.0	3209	13747	4088	27862	29563	15279	5023	1264	1897.1	8110
MEAN	6.92	255	104	443	146	899	985	493	167	40.8	61.2	270
MAX	33	1500	600	2500	445	3830	4190	2570	806	206	496	1520
MIN	.00	6.0	15	88	70	80	137	85	35	19	7.0	19
CFSM	.01	.35	.14	.60	.20	1.22	1.34	.67	.23	.06	.08	.37
IN.	.01	.39	.16	.70	.21	1.41	1.50	.77	.25	.06	.10	.41

CAL YR 1988 TOTAL 138860.85 MEAN 379 MAX 10100 MIN .00 CFSM .52 IN. 7.03
WTR YR 1989 TOTAL 117919.55 MEAN 323 MAX 4190 MIN .00 CFSM .44 IN. 5.97

e Estimated

KASKASKIA RIVER BASIN

05594000 SHOAL CREEK NEAR BREESE, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.41	---	---	---	2.46	2.09	10.82	5.00	7.11	1.64	1.58	1.69
2	1.41	---	---	---	2.35	2.06	8.04	4.08	6.28	1.60	1.51	1.60
3	1.40	---	---	---	2.33	2.02	13.00	3.12	4.95	1.57	1.47	1.72
4	1.45	1.64	---	2.21	2.43	2.02	15.70	2.56	3.75	1.59	1.46	1.94
5	1.45	2.47	---	2.28	2.29	2.07	16.01	2.33	3.28	1.58	1.44	1.72
6	1.41	---	---	6.86	2.30	2.15	16.49	2.28	2.90	1.58	1.43	1.57
7	1.34	---	---	13.97	2.19	2.13	16.76	2.25	2.51	1.58	1.43	1.48
8	1.29	---	---	14.31	2.16	2.05	14.42	2.19	2.28	1.58	1.39	1.41
9	1.33	---	---	10.10	2.00	2.19	9.63	2.13	2.17	1.57	1.37	1.38
10	1.32	---	---	6.07	2.08	2.20	7.07	2.08	2.09	1.55	1.37	10.27
11	1.33	---	---	3.47	1.98	3.41	5.73	2.08	2.03	1.54	1.38	10.87
12	1.28	---	---	---	1.96	7.99	4.80	2.08	1.98	1.57	1.35	5.43
13	1.24	---	---	---	2.04	11.89	4.14	2.02	1.95	1.60	1.39	2.95
14	1.20	---	---	---	2.10	8.99	3.61	1.96	1.91	1.65	1.27	7.61
15	1.17	---	---	---	2.17	8.46	3.26	1.93	1.91	1.54	1.26	8.34
16	1.16	2.21	---	2.36	2.55	5.72	2.93	1.90	1.84	1.47	1.29	6.82
17	1.19	3.86	---	2.43	2.71	4.34	2.76	1.88	1.80	1.47	1.57	4.52
18	1.92	---	---	2.38	2.80	3.78	2.59	1.85	1.77	1.49	1.48	3.57
19	1.93	---	---	2.19	2.33	3.17	2.77	1.83	1.76	1.51	1.55	2.64
20	1.80	---	---	2.14	2.26	5.34	4.01	1.96	1.73	1.53	1.43	2.13
21	1.64	---	---	2.26	2.44	15.49	2.61	5.64	1.71	1.64	1.41	1.96
22	1.57	---	---	2.25	4.45	15.84	2.37	3.20	1.72	2.53	2.78	1.86
23	1.50	---	---	2.25	4.07	16.35	2.35	2.27	1.69	1.83	2.16	1.77
24	1.56	---	---	2.12	2.61	14.79	2.31	2.17	1.67	1.73	1.67	1.71
25	1.78	---	---	2.01	2.13	9.22	2.29	2.14	1.65	1.65	4.74	1.68
26	1.75	---	---	2.40	2.27	6.30	2.18	3.11	1.65	1.57	3.94	1.63
27	1.70	---	---	6.73	2.25	5.20	2.13	13.20	1.68	1.57	2.05	1.60
28	---	---	---	5.88	2.15	4.36	2.17	13.75	2.05	1.52	1.84	1.55
29	---	---	---	---	---	3.97	2.22	8.02	1.72	3.58	1.73	1.52
30	---	---	---	---	---	5.69	2.15	14.03	1.69	1.67	1.70	1.49
31	---	---	---	---	---	9.61	---	13.13	---	1.96	1.87	---
MEAN	---	---	---	---	2.42	6.16	6.24	4.13	2.44	1.69	1.75	3.21
MAX	---	---	---	---	4.45	16.35	16.76	14.03	7.11	3.58	4.74	10.87
MIN	---	---	---	---	1.96	2.02	2.13	1.83	1.65	1.47	1.26	1.38

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT												
20...	1000	17002	17002	21	591	7.70	13.0	2.6	7.3	27	--	230
NOV												
21...	1000	17002	17002	1250	190	7.80	5.5	290	9.3	73	43000	65
JAN												
03...	1000	17002	17002	134	471	7.70	0.5	29	13.2	21	<10	180
FEB												
07...	1000	17002	17002	90	654	8.00	0.0	11	13.6	19	K30	240
MAR												
20...	1400	81700	80020	2160	208	7.20	5.5	--	10.9	--	--	--
21...	1000	17002	17002	3120	186	6.90	4.0	390	10.5	110	<10	55
APR												
25...	1000	17002	17002	161	630	6.80	19.0	16	--	17	K10	250
MAY												
23...	1300	81700	80020	151	429	7.00	21.0	--	5.6	--	--	--
24...	1100	17002	17002	139	400	7.20	19.5	110	6.0	30	3900	140
JUN												
27...	1530	17002	17002	71	640	7.80	28.5	11	6.9	24	K650	300
AUG												
01...	1000	17002	17002	26	261	7.30	26.0	48	1.9	20	K1400	90
SEP												
13...	1000	17002	17002	219	316	7.70	21.0	31	6.3	21	K10	120

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT											
20...	11	57	55	24	23	36	34	5.3	4.9	221	60
NOV											
21...	65	25	16	11	6.0	8.4	6.9	5.7	2.8	<10	32
JAN											
03...	68	49	43	21	18	22	19	4.0	3.3	114	97
FEB											
07...	51	64	55	27	24	31	27	3.3	2.8	186	130
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
21...	55	30	14	11	4.8	7.5	5.8	4.2	2.1	<10	31
APR											
25...	51	65	59	28	26	26	24	3.7	3.0	204	140
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
24...	41	41	37	14	12	17	16	5.3	4.3	101	59
JUN											
27...	63	74	72	29	28	28	27	4.3	4.5	233	73
AUG											
01...	15	25	22	9.7	8.5	10	9.3	7.8	6.2	75	28
SEP											
13...	28	33	30	12	11	12	11	6.1	4.5	92	33

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)
OCT											
20...	--	--	16	2	0.140	--	<0.100	<0.001	0.150	0.070	480
NOV											
21...	--	--	430	40	0.590	--	0.280	0.002	1.01	0.200	19000
JAN											
03...	--	--	22	4	1.60	--	0.260	0.001	0.310	0.170	950
FEB											
07...	--	--	26	5	1.30	--	0.200	0.002	0.210	0.100	220
MAR											
20...	--	--	--	--	--	1.10	--	--	--	--	--
21...	--	--	820	66	1.00	--	0.770	<0.001	1.00	0.160	11000
APR											
25...	--	--	62	8	0.580	--	0.100	<0.001	0.140	0.040	1000
MAY											
23...	--	--	--	--	--	1.40	--	--	--	--	--
24...	--	--	25	3	1.20	--	0.420	0.003	0.820	0.320	5600
JUN											
27...	--	--	87	10	<0.100	--	<0.100	<0.005	0.160	0.030	1800
AUG											
01...	9.2	129	67	10	0.770	--	0.420	0.005	0.300	0.170	2700
SEP											
13...	--	--	108	8	0.540	--	<0.100	<0.002	0.190	0.100	3200

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)
OCT											
20...	<50	100	79	<0.5	<0.5	90	90	<3	<3	<5	<5
NOV											
21...	190	300	28	<1.0	<0.5	60	<50	<3	<3	25	<5
JAN											
03...	50	70	46	<0.5	<0.5	100	90	<3	<3	<5	<5
FEB											
07...	<50	70	53	<0.5	<0.5	130	110	<3	<3	<5	<5
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
21...	<50	200	<10	<1.0	<1	<50	<50	<3	<3	5	<5
APR											
25...	90	100	70	<0.5	<0.5	100	70	--	--	<5	<5
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
24...	200	100	66	<0.5	<0.5	190	180	<3	<3	<5	<5
JUN											
27...	230	100	110	<0.5	<0.5	90	90	<3	<3	<5	<5
AUG											
01...	<50	90	54	<0.5	<0.5	<50	<50	<3	<3	<5	<5
SEP											
13...	<50	100	62	<0.5	<0.5	70	60	<3	<3	<5	<5

05594000 SHOAL CREEK NEAR BREESE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT											
20...	<5	<5	<5	<5	880	<50	<5	<5	220	42	<0.05
NOV											
21...	10	<5	21	<5	25000	210	17	<5	1200	190	0.05
JAN											
03...	<5	<5	<5	<5	1400	<50	<5	<5	170	120	<0.05
FEB											
07...	<5	<5	<5	<5	620	<50	<5	<5	230	190	<0.05
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
21...	<10	<10	13	<5	13000	<50	27	<5	1200	69	<0.05
APR											
25...	<5	<5	<5	<5	1700	<50	<5	<5	310	160	<0.05
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
24...	<5	<5	<5	<5	6500	<50	7	<5	360	96	<0.05
JUN											
27...	<5	<5	<5	<5	2400	65	<5	<5	670	240	<0.05
AUG											
01...	<5	<5	<5	<5	3800	<50	<5	<5	560	420	<0.05
SEP											
13...	<5	<5	<5	<5	4200	<50	<5	<5	260	82	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
20...	<5	6	<3	<3.0	140	140	41	<5	<50	<50	8.0
NOV											
21...	22	<5	<3	<3.0	70	38	42	<5	120	<50	24
JAN											
03...	5	<5	<3	<3.0	120	100	<5	<5	<100	<50	10
FEB											
07...	<5	<5	<3	<3.0	170	150	<5	<5	<100	<100	9.8
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
21...	11	<5	<3	<3.0	80	35	15	<10	<100	<100	29
APR											
25...	<5	<5	<3	<3.0	170	160	<5	<5	<50	<50	8.0
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
24...	<5	<5	<3	<3.0	120	100	10	<5	<100	<100	11
JUN											
27...	<5	<5	<3	<3.0	190	180	<5	<5	<50	<50	7.7
AUG											
01...	14	12	<3	<3.0	70	64	8	<5	<50	<50	9.7
SEP											
13...	<5	<5	<3	<3.0	90	85	10	<5	<50	<50	8.3

05594090 SUGAR CREEK AT ALBERS, IL

LOCATION.--Lat 38°32'29", long 89°37'36", in SW1/4SW1/4 sec.11, T.1 N., R.5 W., Clinton County, Hydrologic Unit 07140204, at bridge on State Highway 161, 0.4 mi above Lake Branch, 0.5 mi above Southern Railroad bridge, 0.7 mi west of Albers, and at mile 9.2.

DRAINAGE AREA.--124 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site OH 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT 20...	1100	17002	17002	--	319	7.10	13.0	2.6	4.0	70	24000
NOV 21...	1200	17002	17002	--	109	7.50	4.0	180	9.8	72	24000
JAN 03...	1200	17002	17002	--	590	7.70	1.0	39	11.6	42	K10
FEB 07...	1200	17002	17002	10	716	7.90	0.5	25	11.5	37	K30
MAR 21...	1200	17002	17002	3200	129	6.80	4.5	360	10.2	80	<10
APR 25...	1200	17002	17002	5.6	808	6.80	20.5	16	--	33	K80
MAY 24...	1300	17002	17002	29	612	7.30	20.0	22	3.6	39	4100
JUN 27...	1200	17002	17002	280	180	7.20	22.0	60	5.4	140	K69000
AUG 01...	1200	17002	17002	7.7	510	7.40	24.0	58	3.7	44	K100
SEP 13...	1200	17002	17002	0.0	485	7.60	19.0	30	3.5	30	K1200

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
OCT 20...	66	18	25	18	7.6	5.0	28	23	11	8.1	48
NOV 21...	31	32	16	8.3	6.6	2.6	4.2	3.3	5.9	2.8	<10
JAN 03...	150	25	46	38	15	13	52	44	9.7	7.9	124
FEB 07...	200	10	60	51	21	18	52	45	7.5	6.3	192
MAR 21...	28	28	16	7.3	5.8	2.3	4.3	3.1	4.5	1.6	<10
APR 25...	260	6	71	63	27	24	62	55	6.6	5.9	251
MAY 24...	150	0	45	42	13	11	58	54	9.6	8.8	161
JUN 27...	51	51	28	14	12	3.8	14	11	14	8.3	<10
AUG 01...	110	3	33	29	11	9.9	43	39	21	19	110
SEP 13...	100	0	32	27	11	8.9	51	43	12	9.3	144

05594090 SUGAR CREEK AT ALBERS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
20...	41	--	--	28	6	1.20	1.70	0.005	2.00	1.30	7300
NOV											
21...	20	--	--	520	70	0.680	0.360	0.001	1.20	0.310	17000
JAN											
03...	74	--	--	28	7	2.20	1.70	0.008	1.14	0.880	1100
FEB											
07...	100	--	--	17	5	1.70	0.920	0.007	1.20	0.870	580
MAR											
21...	17	--	--	454	56	1.40	0.740	<0.001	1.10	0.430	12000
APR											
25...	130	--	--	49	10	<0.100	<0.100	<0.001	0.410	0.290	890
MAY											
24...	78	--	--	117	12	1.20	0.940	0.008	1.09	0.130	2800
JUN											
27...	27	--	--	1150	84	1.10	0.660	0.005	1.80	0.520	37000
AUG											
01...	65	35	264	188	22	1.10	0.760	0.011	1.70	1.30	4000
SEP											
13...	48	--	--	56	6	0.370	0.160	0.002	1.10	0.900	2500

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
20...	<50	100	28	<0.5	<0.5	80	70	<3	<3	7	<5
NOV											
21...	50	200	19	<1.0	<0.5	<50	<50	<3	<3	21	<5
JAN											
03...	<50	70	46	<0.5	<0.5	80	70	<3	<3	<5	<5
FEB											
07...	<50	80	56	<0.5	<0.5	80	70	<3	<3	<5	<5
MAR											
21...	<50	200	<10	<0.5	<0.5	<50	<50	<3	<3	10	<5
APR											
25...	110	100	85	<0.5	<0.5	110	100	--	--	<5	<5
MAY											
24...	200	100	76	<0.5	<0.5	110	110	<3	<3	<5	<5
JUN											
27...	100	500	37	3.0	<0.5	50	<50	<3	<3	39	<5
AUG											
01...	60	100	61	<0.5	<0.5	100	90	<3	<3	7	<5
SEP											
13...	<50	90	47	<0.5	<0.5	160	130	<3	<3	<5	<5

05594090 SUGAR CREEK AT ALBERS, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT											
20...	5	<5	11	<5	9200	68	13	<5	640	300	0.13
NOV											
21...	6	<5	20	<5	21000	95	18	<5	700	180	<0.05
JAN											
03...	<5	<5	6	<5	1600	<50	<5	<5	240	170	<0.05
FEB											
07...	<5	<5	<5	<5	990	<50	<5	<5	290	230	0.06
MAR											
21...	<5	<10	12	<5	15000	<50	18	<5	640	61	<0.05
APR											
25...	<5	<5	<5	<5	1100	<50	<5	<5	450	170	<0.05
MAY											
24...	<5	<5	<5	<5	3300	<50	<5	5	670	490	<0.05
JUN											
27...	20	<5	44	<5	50000	76	52	<5	2100	180	<0.05
AUG											
01...	<5	<5	7	5	5000	97	<5	<5	640	440	<0.05
SEP											
13...	<5	<5	<5	<5	3100	<50	<5	<5	600	430	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
20...	8	<5	<3	<3.0	70	50	87	61	<100	<100	--
NOV											
21...	14	<5	<3	<3.0	60	25	35	<5	<100	<100	--
JAN											
03...	<5	<5	<3	<3.0	150	120	5	<5	<50	<50	--
FEB											
07...	<5	<5	<3	<3.0	210	180	<5	<5	120	<50	--
MAR											
21...	6	<5	<3	<3.0	60	22	16	<10	<100	<100	--
APR											
25...	<5	<5	<3	<3.0	240	210	<5	<5	<50	<50	--
MAY											
24...	<5	<5	<3	<3.0	160	150	8	<5	<50	<50	--
JUN											
27...	39	<5	<3	<3.0	120	49	83	<5	180	<50	--
AUG											
01...	16	11	<3	<3.0	120	100	18	11	<50	<50	18
SEP											
13...	<5	<5	<3	<3.0	110	89	11	<5	<50	<50	--

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL

LOCATION.--Lat 38°27'02", long 89°37'39", in NW1/4NW1/4 sec.14, T.1 S., R.5 W., Washington County, Hydrologic Unit 07140204, on downstream side of bridge on State Highways 160 and 177, 1 mi northwest of Venedy Station, 2.5 mi downstream from Sugar Creek, 4 mi west of Okawville, and at mile 57.2.

DRAINAGE AREA.--4,393 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year. Gage-height record for Mar. 7, 1968, to Sept. 30, 1969, available in files of U.S. Army Corps of Engineers.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 380.10 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow partially regulated by Carlyle Reservoir (station 05592990), 35 mi upstream from gage. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years, 3,722 ft^3/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,200 ft^3/s, Dec. 26, 1982, gage height, 23.80 ft; minimum, 54 ft^3/s, Sept. 12, 13, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,600 ft^3/s, Apr. 5, gage height, 22.53 ft; minimum, 76 ft^3/s, Nov. 1, 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	77	392	2420	1610	1510	13200	1880	3780	1890	408	240
2	103	78	280	2310	1250	1220	14700	2660	3410	1830	285	206
3	122	80	219	2250	1360	924	16600	2860	3830	1790	209	182
4	174	89	182	2850	1950	750	19800	2390	3910	1790	172	196
5	166	304	160	3410	1680	804	22600	2120	4120	1770	159	229
6	143	530	144	5730	1260	843	21300	2030	4630	1750	149	193
7	130	415	134	7690	971	823	17500	2020	4830	1740	137	160
8	114	299	128	7990	705	815	15400	2000	4770	1620	132	144
9	111	210	123	7360	641	809	12800	1980	4650	1480	128	134
10	114	127	117	6520	646	878	9920	1950	4530	1320	120	333
11	114	135	112	5360	556	2290	8340	2100	4430	1230	112	1780
12	108	370	104	4650	463	3660	7900	2130	4200	1210	110	1480
13	99	476	109	4420	462	3800	7810	1950	3660	1210	109	1930
14	97	530	346	4190	940	3900	7810	1890	3230	1320	105	3940
15	88	409	472	4010	1940	4100	7810	1870	3470	1400	103	5010
16	84	509	420	3940	2870	3730	7700	1850	2970	1410	102	4130
17	96	824	403	3890	3330	3710	7420	1830	2450	1410	102	3470
18	94	1280	397	3690	2890	3910	6980	1810	2150	1290	111	3100
19	124	1160	404	3400	2260	3940	6500	1880	1850	1200	129	2930
20	231	1230	395	3070	1990	5380	6040	2990	2120	1110	129	2910
21	157	3020	459	2590	2840	9820	5340	3660	2390	1040	135	2630
22	118	3620	719	1990	3480	13200	4690	3840	2400	1140	198	2130
23	122	2580	469	1770	3220	15200	3970	3020	2090	1330	409	1670
24	116	1450	671	1540	2440	15600	3040	2880	1670	1170	350	1500
25	108	778	1400	1270	1930	15200	2230	3040	1480	1150	251	1470
26	95	509	1030	1350	1750	12900	1790	2830	1440	1090	737	1310
27	92	1020	690	2060	1740	10800	1540	3800	1570	1140	563	1020
28	94	1200	572	2710	1710	9520	1380	4610	1860	973	345	817
29	91	836	1140	2890	---	8920	1470	4530	1710	806	265	722
30	87	568	2210	2700	---	9770	1630	4120	1900	802	216	551
31	82	---	2440	2160	---	11300	---	4600	---	508	217	---
TOTAL	3569	24713	16841	112180	48884	180026	265210	83120	91500	40919	6697	46517
MEAN	115	824	543	3619	1746	5807	8840	2681	3050	1320	216	1551
MAX	231	3620	2440	7990	3480	15600	22600	4610	4830	1890	737	5010
MIN	82	77	104	1270	462	750	1380	1810	1440	508	102	134

CAL YR 1988 TOTAL 1072732 MEAN 2931 MAX 28200 MIN 77
WTR YR 1989 TOTAL 920176 MEAN 2521 MAX 22600 MIN 77

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.37	1.07	3.19	9.26	7.69	7.42	21.16	7.90	12.15	7.87	3.30	2.21
2	1.44	1.05	2.59	9.06	6.64	6.60	21.41	9.41	11.05	7.69	2.61	2.02
3	1.52	1.09	2.22	8.89	6.60	5.67	21.65	10.18	11.85	7.60	2.16	1.84
4	1.84	1.10	1.98	9.76	8.39	4.96	21.98	9.29	12.10	7.58	1.91	1.85
5	1.80	1.99	1.82	10.97	7.88	5.03	22.26	8.59	12.20	7.53	1.80	2.16
6	1.60	3.64	1.70	14.67	6.69	5.28	22.35	8.46	13.25	7.48	1.74	1.95
7	1.51	3.72	1.62	17.84	6.05	5.19	21.81	8.44	13.67	7.45	1.64	1.71
8	1.39	3.08	1.58	18.52	4.77	5.14	21.58	8.42	13.61	7.20	1.60	1.59
9	1.35	2.63	1.54	17.79	4.47	5.14	21.28	8.40	13.40	6.81	1.57	1.52
10	1.38	2.03	1.49	16.61	4.61	5.20	20.37	8.34	13.17	6.42	1.51	1.46
11	1.38	1.76	1.45	14.82	4.25	8.42	18.99	8.46	13.01	6.08	1.44	7.60
12	1.34	3.36	1.40	13.44	3.80	11.55	18.35	8.77	12.69	6.01	1.42	6.82
13	1.26	3.71	1.41	13.00	3.76	11.91	18.17	8.32	11.75	6.01	1.42	7.53
14	1.23	4.24	2.68	12.64	5.05	11.90	18.19	8.21	10.86	6.26	1.38	10.83
15	1.20	3.60	3.46	12.28	8.27	12.49	18.18	8.14	11.07	6.57	1.36	14.13
16	1.07	3.59	3.25	12.13	9.75	11.89	18.08	8.10	10.48	6.58	1.35	12.70
17	1.23	5.01	3.14	12.05	11.12	11.51	17.73	8.07	9.20	6.58	1.37	11.34
18	1.22	6.52	3.11	11.73	10.32	12.02	17.12	8.04	8.61	6.31	1.36	10.62
19	1.18	6.44	3.15	11.16	9.05	12.16	16.43	8.00	7.79	5.99	1.61	10.11
20	2.26	5.52	3.10	10.55	8.36	12.05	15.79	10.13	8.17	5.78	1.56	10.14
21	1.77	9.80	3.08	9.74	9.65	19.77	14.70	11.30	8.99	5.51	1.61	9.65
22	1.40	11.75	4.63	8.51	11.31	21.12	13.58	12.11	9.02	5.67	2.19	8.59
23	1.49	9.93	3.52	7.95	11.00	21.46	12.45	10.69	8.48	6.40	3.16	7.39
24	1.41	7.03	3.52	7.46	9.47	21.51	10.67	9.84	7.41	6.00	3.01	6.85
25	1.36	4.88	6.75	6.66	8.35	21.53	9.02	10.48	6.79	5.93	2.33	6.77
26	1.22	3.50	5.70	6.53	7.90	21.28	8.04	10.15	6.67	5.62	4.58	6.41
27	1.19	5.13	4.41	8.14	7.86	20.72	7.42	11.22	6.64	5.85	3.99	5.63
28	1.22	6.16	3.87	9.70	7.81	20.06	6.94	13.44	7.97	5.41	2.81	4.79
29	1.18	5.01	4.65	10.14	---	19.44	7.02	13.83	7.35	4.74	2.37	4.53
30	1.16	3.97	8.32	9.83	---	20.04	7.47	12.07	7.82	4.98	2.08	3.93
31	1.12	---	9.25	8.91	---	20.79	---	13.37	---	3.75	1.95	---
MEAN	1.39	4.41	3.34	11.31	7.53	12.88	16.34	9.69	10.24	6.31	2.07	6.16
MAX	2.26	11.75	9.25	18.52	11.31	21.53	22.35	13.83	13.67	7.87	4.58	14.13
MIN	1.07	1.05	1.40	6.53	3.76	4.96	6.94	7.90	6.64	3.75	1.35	1.46

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: May 1980 to current year.

REMARKS.--Suspended-sediment samples are collected by a local observer once a week with additional samples collected during storm runoff periods.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,590 mg/L, June 1, 1982; minimum daily mean, 5 mg/L, Dec. 20-29, 1980, Feb. 5, 1981.
SEDIMENT LOADS: Maximum daily, 46,200 tons, June 1, 1982; minimum daily, 1.9 tons, Jan. 14-16, 19, 23, 24, 1981.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,650 mg/L, Sept. 14; minimum daily mean, 20 mg/L, Jan. 15-18.
SEDIMENT LOADS: Maximum daily, 19,500 tons, March 21; minimum daily, 12 tons, Aug 11-16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV 10...	1000	17002	17002	128	532	7.80	10.0	21	7.6	39	K40
DEC 20...	1000	17002	17002	395	429	8.00	2.5	14	12.9	12	K80
JAN 30...	1000	17002	17002	2730	436	8.30	4.5	42	12.8	27	<10
FEB 28...	1000	17002	17002	1720	410	8.70	1.5	15	9.5	23	K10
APR 10...	1000	17002	17002	10200	374	7.40	8.0	40	10.1	22	K30
MAY 09...	1000	17002	17002	1990	417	7.80	16.0	30	7.8	16	K50
JUN 15...	1000	17002	17002	3530	404	7.50	23.0	34	5.9	49	K7000
AUG 03...	1000	17002	17002	212	408	7.90	28.0	17	9.4	20	K40
SEP 11...	1000	17002	17002	1860	119	6.90	22.0	31	3.8	40	K600

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
NOV 10...	150	59	39	36	16	14	47	43	7.9	6.9	89
DEC 20...	170	37	41	37	21	19	20	18	2.9	2.6	134
JAN 30...	150	37	37	33	18	16	21	20	2.8	2.4	112
FEB 28...	170	45	41	38	21	19	20	19	2.6	2.3	128
APR 10...	140	0	35	31	16	14	14	13	3.5	3.1	156
MAY 09...	180	--	42	--	19	--	16	--	4.2	--	120
JUN 15...	150	42	42	34	22	16	17	15	5.9	3.5	109
AUG 03...	160	30	36	34	20	19	17	17	4.2	3.6	133
SEP 11...	38	38	15	9.6	6.6	3.4	2.8	2.3	5.6	3.6	<10

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 10...	60	59	0.3	273	68	9	0.730	0.120	0.001	1.4	1.5
DEC 20...	49	28	0.2	234	--	--	0.360	<0.100	<0.001	--	0.80
JAN 30...	58	30	0.2	227	63	11	0.450	<0.100	<0.002	--	1.3
FEB 28...	62	29	0.2	246	25	5	0.780	<0.100	<0.005	--	1.1
APR 10...	160	21	0.2	335	45	5	0.950	0.480	0.002	0.52	1.0
MAY 09...	51	24	0.1	--	51	10	0.980	0.180	0.003	0.32	0.50
JUN 15...	45	24	0.2	204	480	50	1.10	0.540	0.009	0.76	1.3
AUG 03...	38	27	0.2	219	80	13	0.110	<0.100	<0.006	--	1.5
SEP 11...	22	5.4	0.2	47	556	40	0.570	0.240	<0.001	0.96	1.2

DATE	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)
NOV 10...	2.2	0.630	0.360	1400	<50	4	80	41	<0.5	<0.5	70
DEC 20...	1.2	0.100	0.060	320	<50	2	50	41	<0.5	<0.5	<50
JAN 30...	1.7	0.250	0.090	1300	60	2	70	43	<0.5	<0.5	<50
FEB 28...	1.9	0.130	0.030	440	70	1	50	38	<0.5	<0.5	<50
APR 10...	2.0	0.210	0.110	2200	70	2	70	46	<0.5	<0.5	<50
MAY 09...	1.5	0.167	0.090	2000	--	2	70	--	<0.5	--	<50
JUN 15...	2.4	0.602	0.120	15000	780	4	300	62	<1.0	<0.5	<50
AUG 03...	1.6	0.140	0.030	1500	<50	3	80	54	<0.5	<0.5	<50
SEP 11...	1.8	0.720	0.040	11000	<50	3	200	25	<1.0	<0.5	50

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
NOV										
10...	60	<3	<3	<5	<5	<5	<5	<5	<5	2500
DEC										
20...	<50	<3	<3	<5	<5	<5	<5	<5	<5	670
JAN										
30...	<50	<3	<3	<5	<5	<5	<5	<5	<5	1600
FEB										
28...	<50	<3	<3	<5	<5	<5	<5	<5	--	590
APR										
10...	<50	<3	<3	<5	<5	<5	<5	<5	<5	2400
MAY										
09...	--	<3	--	8	--	5	--	8	--	1700
JUN										
15...	<50	<3	<3	20	<5	8	<5	20	<5	19000
AUG										
03...	<50	<3	<3	<5	<5	<5	<5	<5	<5	2600
SEP										
11...	<50	<3	<3	12	<5	<5	<5	11	<5	16000

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
NOV										
10...	76	6	<5	370	220	<0.05	<5	<5	<3	<3.0
DEC										
20...	<50	<5	<5	160	86	<0.05	<5	<5	<3	<3.0
JAN										
30...	<50	<5	<5	140	20	<0.05	<5	<5	<3	<3.0
FEB										
28...	<50	<5	<5	100	19	<0.05	<5	<5	<3	<3.0
APR										
10...	<50	<5	<5	170	22	<0.05	<5	<5	<3	<3.0
MAY										
09...	--	<5	150	220	--	--	5	--	<5	--
JUN										
15...	90	13	<5	770	93	<0.05	12	<5	<3	<3.0
AUG										
03...	<50	<5	<5	460	91	<0.05	<5	<5	<3	<3.0
SEP										
11...	<50	12	<5	690	160	<0.05	12	<5	<3	<5.0

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
NOV										
10...	170	150	<5	<5	130	<100	14	<0.005	<5	<1
DEC										
20...	120	110	<5	<5	<50	<50	7.7	<0.005	<5	1
JAN										
30...	120	110	<5	<5	<50	<50	11	<0.005	<5	<1
FEB										
28...	130	120	<5	<5	<50	<50	9.0	<0.005	<5	10
APR										
10...	110	93	<5	<5	<50	<50	11	<0.005	<5	1
MAY										
09...	120	--	8	--	<50	--	7.7	<0.005	<5	<1
JUN										
15...	140	110	36	<5	<100	<100	17	0.005	<5	<1
AUG										
03...	120	110	<5	<5	<50	<50	9.2	<0.005	<5	--
SEP										
11...	40	24	25	<5	130	<50	14	<0.005	<5	--

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	95	35	9.0	77	45	9.4	392	38	40
2	103	38	11	78	44	9.2	280	39	30
3	122	41	14	80	42	9.1	219	40	24
4	174	46	22	89	41	9.8	182	41	20
5	166	47	21	304	135	122	160	43	18
6	143	46	18	530	209	304	144	44	17
7	130	46	16	415	157	176	134	45	16
8	114	46	14	299	108	87	128	46	16
9	111	45	14	210	77	44	123	48	16
10	114	45	14	127	44	15	117	49	15
11	114	45	14	135	138	73	112	51	15
12	108	45	13	370	317	313	104	52	15
13	99	44	12	476	224	301	109	54	16
14	97	44	12	530	238	346	346	210	205
15	88	44	10	409	202	222	472	135	172
16	84	43	9.8	509	221	322	420	92	104
17	96	43	11	824	555	1290	403	60	66
18	94	45	11	1280	490	1690	397	48	51
19	124	167	62	1160	278	877	404	43	47
20	231	128	82	1230	233	932	395	40	42
21	157	83	36	3020	360	2980	459	88	127
22	118	61	19	3620	420	4070	719	254	502
23	122	46	15	2580	336	2330	469	125	162
24	116	55	17	1450	238	913	671	157	355
25	108	57	16	778	165	343	1400	240	917
26	95	55	14	509	108	152	1030	163	454
27	92	53	13	1020	209	549	690	176	326
28	94	51	13	1200	151	489	572	111	172
29	91	50	12	836	109	243	1140	194	702
30	87	48	11	568	44	69	2210	155	923
31	82	47	10	---	---	---	2440	88	580
TOTAL	3569	---	565.8	24713	---	19289.5	16841	---	6165

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	2420	71	463	1610	33	143	1510	31	125
2	2310	55	346	1250	33	110	1220	31	101
3	2250	35	214	1360	32	118	924	31	76
4	2850	136	1070	1950	31	166	750	31	62
5	3410	141	1280	1680	31	140	804	30	66
6	5730	411	6410	1260	30	104	843	30	69
7	7690	273	5550	971	30	79	823	30	67
8	7990	198	4290	705	31	59	815	30	66
9	7360	139	2770	641	32	55	809	30	66
10	6520	134	2370	646	33	57	878	43	107
11	5360	78	1130	556	34	51	2290	450	2830
12	4650	44	553	463	35	44	3660	853	8450
13	4420	30	360	462	39	49	3800	702	7200
14	4190	22	247	940	105	266	3900	444	4670
15	4010	20	218	1940	234	1210	4100	236	2620
16	3940	20	214	2870	218	1760	3730	148	1490
17	3890	20	212	3330	122	1100	3710	117	1170
18	3690	20	202	2890	63	489	3910	82	868
19	3400	21	191	2260	40	245	3940	70	743
20	3070	21	178	1990	44	238	5380	326	5790
21	2590	22	155	2840	548	4320	9820	743	19500
22	1990	23	124	3480	465	4360	13200	369	13200
23	1770	24	114	3220	220	1920	15200	246	10200
24	1540	25	105	2440	109	729	15600	173	7310
25	1270	27	93	1930	59	312	15200	98	4010
26	1350	29	107	1750	37	177	12900	79	2770
27	2060	31	174	1740	32	149	10800	71	2070
28	2710	32	235	1710	31	143	9520	57	1470
29	2890	32	253	---	---	---	8920	55	1330
30	2700	33	238	---	---	---	9770	151	4000
31	2160	33	192	---	---	---	11300	164	4990
TOTAL	112180	---	30058	48884	---	18593	180026	---	107486

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	13200	140	4980	1880	139	728	3780	357	3650
2	14700	72	2870	2660	235	1730	3410	202	1850
3	16600	86	3850	2860	155	1200	3830	127	1300
4	19800	124	6770	2390	96	621	3910	104	1090
5	22600	169	10300	2120	79	449	4120	106	1180
6	21300	123	7100	2030	68	374	4630	108	1350
7	17500	82	3900	2020	61	333	4830	104	1350
8	15400	79	3280	2000	57	310	4770	97	1250
9	12800	78	2720	1980	56	302	4650	91	1150
10	9920	72	1930	1950	56	293	4530	86	1050
11	8340	61	1370	2100	56	314	4430	81	965
12	7900	54	1150	2130	56	321	4200	81	918
13	7810	50	1050	1950	56	295	3660	83	820
14	7810	48	1020	1890	56	288	3230	90	784
15	7810	49	1040	1870	57	285	3470	92	864
16	7700	54	1130	1850	57	284	2970	88	708
17	7420	61	1230	1830	58	284	2450	84	559
18	6980	72	1350	1810	67	326	2150	79	462
19	6500	81	1420	1880	147	810	1850	70	348
20	6040	82	1340	2990	931	7450	2120	61	349
21	5340	80	1150	3660	1120	11200	2390	62	403
22	4690	74	939	3840	385	4030	2400	67	432
23	3970	65	700	3020	177	1460	2090	72	404
24	3040	57	470	2880	447	3490	1670	76	343
25	2230	49	298	3040	173	1430	1480	77	305
26	1790	39	189	2830	121	931	1440	76	295
27	1540	30	126	3800	1100	12100	1570	75	319
28	1380	34	126	4610	1200	15000	1860	74	373
29	1470	85	339	4530	1120	14000	1710	74	340
30	1630	95	425	4120	918	10400	1900	73	373
31	---	---	---	4600	563	6980	---	---	---
TOTAL	265210	---	64562	83120	---	98018	91500	---	25584

05594100 KASKASKIA RIVER NEAR VENEDY STATION, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	1890	72	369	408	34	37	240	69	44
2	1830	71	352	285	34	26	206	68	38
3	1790	71	343	209	35	19	182	67	33
4	1790	70	339	172	35	16	196	66	35
5	1770	70	334	159	36	15	229	65	40
6	1750	70	331	149	36	15	193	64	33
7	1740	70	327	137	37	14	160	63	27
8	1620	70	305	132	38	13	144	62	24
9	1480	70	279	128	38	13	134	61	22
10	1320	70	249	120	39	13	333	238	523
11	1230	69	231	112	39	12	1780	1020	4730
12	1210	69	227	110	40	12	1480	451	1780
13	1210	69	226	109	41	12	1930	561	3050
14	1320	67	241	105	41	12	3940	1650	18600
15	1400	65	246	103	42	12	5010	845	11400
16	1410	62	237	102	44	12	4130	324	3710
17	1410	60	228	102	46	13	3470	157	1470
18	1290	58	200	111	48	15	3100	150	1250
19	1200	55	180	129	51	18	2930	139	1100
20	1110	53	160	129	53	18	2910	127	996
21	1040	51	144	135	55	20	2630	115	820
22	1140	49	151	198	58	31	2130	105	604
23	1330	47	170	409	61	67	1670	96	432
24	1170	45	144	350	60	57	1500	87	354
25	1150	44	136	251	61	41	1470	79	315
26	1090	42	124	737	62	124	1310	72	255
27	1140	40	124	563	63	96	1020	66	182
28	973	39	102	345	64	60	817	60	132
29	806	37	81	265	65	47	722	54	106
30	802	36	78	216	67	39	551	49	74
31	508	35	47	217	68	40	---	---	---
TOTAL	40919	---	6705	6697	---	939	46517	---	52179
YEAR	920176		430144.3						

05594450 SILVER CREEK NEAR TROY, IL

LOCATION.--Lat 38°43'00", long 89°49'45", in SE1/4SW1/4 sec.12, T.3 N., R.7 W., Madison County, Hydrologic Unit 07140204, on right bank at upstream side of bridge on U.S. Highway 40, 0.2 mi upstream from Penn Central bridge, 1.9 mi upstream from East Fork Silver Creek, 1.9 mi southeast of Troy, and at mile 44.6.

DRAINAGE AREA.--154 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1966 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 430 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--23 years, 119 ft^3/s, 10.49 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,600 ft^3/s, Apr. 12, 1979, gage height, 17.52 ft; no flow for several days each year 1966-69, 1973, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 22	1045	*1,870	*13.83	Apr. 4	1345	1,460	13.29

No flow Oct. 5, 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	e.30	8.4	30	36	12	360	11	15	.64	4.5	15
2	.37	e.20	7.1	19	29	10	325	11	61	e.60	2.7	11
3	.03	e.20	6.3	20	34	10	791	9.7	12	e.60	1.9	20
4	.01	4.5	5.5	37	34	11	1360	9.9	7.5	e.50	1.8	16
5	.00	2.2	4.9	137	22	13	1290	10	8.4	e.50	1.6	8.4
6	.00	.60	4.7	544	e15	14	678	9.1	6.4	e.50	e1.4	6.6
7	.01	.56	4.7	552	e11	15	212	9.3	5.3	e.40	e1.2	5.3
8	.01	.77	4.5	572	e9.0	12	126	9.5	4.8	e.40	e1.0	4.9
9	.02	1.3	4.2	300	e8.0	13	94	9.9	4.6	e.40	e1.0	17
10	.02	63	3.9	112	e7.0	19	66	9.1	4.2	e.30	e.90	303
11	.03	56	3.8	69	e6.5	100	48	8.4	4.1	e.30	e.90	123
12	.02	81	3.7	56	e6.0	343	41	8.2	4.3	e.30	e.80	24
13	.01	118	3.8	43	12	389	36	8.3	3.0	1.8	e.80	11
14	.01	52	5.1	37	16	213	32	8.0	2.6	1.4	e.70	15
15	.04	16	4.4	33	23	122	29	e7.5	2.6	.79	e1.0	95
16	.07	98	3.6	29	58	65	27	e7.5	3.0	.60	3.3	55
17	.12	172	3.6	27	87	39	24	e7.0	3.4	.78	2.1	19
18	1.6	65	3.6	25	51	44	22	e7.0	3.0	.90	1.2	9.7
19	.81	17	3.8	22	31	29	28	e7.0	2.8	.94	1.3	6.7
20	.85	365	4.1	19	26	677	49	82	2.3	1.3	1.4	5.4
21	.46	487	4.3	16	71	1440	28	62	2.2	3.4	2.7	4.8
22	.29	252	14	13	166	1650	21	20	2.0	1.7	3.3	4.2
23	1.7	55	200	13	67	887	19	14	1.9	.83	24	3.6
24	1.7	21	240	12	34	278	17	11	1.8	.65	23	3.5
25	.51	12	69	16	19	146	16	11	1.9	2.9	92	3.7
26	.51	46	31	172	17	101	15	60	2.3	2.2	44	3.7
27	e.40	49	37	338	15	74	13	178	70	1.6	8.2	3.3
28	e.40	33	198	138	14	62	12	47	9.0	.79	44	3.2
29	e.40	18	172	69	---	68	13	90	2.6	1.2	60	3.1
30	e.30	10	94	51	---	69	12	70	1.2	32	11	2.9
31	e.30	---	57	46	---	344	---	33	---	9.3	8.7	---
TOTAL	11.11	2096.63	1210.0	3567	924.5	7269	5804	845.4	255.2	70.52	352.40	807.0
MEAN	.36	69.9	39.0	115	33.0	234	193	27.3	8.51	2.27	11.4	26.9
MAX	1.7	487	240	572	166	1650	1360	178	70	32	92	303
MIN	.00	.20	3.6	12	6.0	10	12	7.0	1.2	.30	.70	2.9
CFSM	.00	.45	.25	.75	.21	1.52	1.26	.18	.06	.01	.07	.17
IN.	.00	.51	.29	.86	.22	1.76	1.40	.20	.06	.02	.09	.19

CAL YR 1988 TOTAL 28779.53 MEAN 78.6 MAX 3560 MIN .00 CFSM .51 IN. 6.95
WTR YR 1989 TOTAL 23212.76 MEAN 63.6 MAX 1650 MIN .00 CFSM .41 IN. 5.61

e Estimated

05594450 SILVER CREEK NEAR TROY, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site OD 06.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)
NOV												
01...	0900	17002	17002	0.30	1060	7.60	7.5	11	3.2	35	650	280
DEC												
15...	0900	17002	17002	4.5	1010	7.90	1.0	19	7.7	27	K80	280
JAN												
26...	0900	17002	17002	87	707	7.60	7.0	91	10.2	28	3500	230
FEB												
02...	0900	17002	17002	26	680	8.00	6.0	25	10.5	24	K320	260
MAR												
23...	0900	17002	17002	1110	258	6.90	5.0	180	8.9	45	<10	79
MAY												
25...	0800	17002	17002	11	598	7.30	20.0	33	4.2	25	K550	200
JUN												
27...	1330	17002	17002	90	447	7.50	23.5	72	5 6	63	29000	160
AUG												
17...	0900	17002	17002	2.1	599	7.10	19.5	88	4.7	73	K110000	140
SEP												
25...	1100	17002	17002	3.9	631	7.50	11.5	3.5	7.9	24	660	200

DATE	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)
NOV											
01...	44	75	66	31	27	95	84	9.0	7.8	233	110
DEC											
15...	65	75	66	31	27	85	75	8.4	7.2	212	110
JAN											
26...	86	62	54	25	22	38	34	4.2	3.2	140	130
FEB											
02...	97	64	62	26	25	35	34	4.0	3.9	161	130
MAR											
23...	52	25	20	8.8	7.1	9.6	8.6	3.7	2.7	27	38
MAY											
25...	39	53	50	19	18	35	33	6.3	5.3	160	81
JUN											
27...	38	51	41	21	15	24	22	11	6.2	127	45
AUG											
17...	32	41	36	16	13	51	47	10	8.9	112	75
SEP											
25...	53	55	48	22	20	45	41	7.8	6.4	150	89

05594450 SILVER CREEK NEAR TROY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)
NOV											
01...	120	557	20	3	0.360	1.30	0.008	4.30	3.60	1100	<50
DEC											
15...	110	533	21	6	3.00	2.90	0.022	2.40	2.20	750	<50
JAN											
26...	51	375	131	15	1.60	0.460	0.003	0.660	0.390	3800	70
FEB											
02...	44	396	32	5	1.60	0.370	0.005	0.620	0.430	850	60
MAR											
23...	14	107	148	18	1.80	0.340	<0.001	0.520	0.230	4200	<50
MAY											
25...	39	323	102	12	1.50	1.10	0.009	0.850	0.640	3000	240
JUN											
27...	24	230	445	39	0.930	0.370	0.006	1.00	0.180	23000	240
AUG											
17...	75	323	182	34	<0.100	0.290	0.001	1.40	0.890	4700	<50
SEP											
25...	56	351	47	6	1.30	0.100	<0.001	0.650	0.650	1700	100

DATE	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOVERABLE (UG/L AS CO) (01037)
NOV											
01...	70	51	<0.5	<0.5	190	160	<3	<3	<5	<5	<5
DEC											
15...	80	55	<0.5	<0.5	160	140	<3	<3	<5	<5	<5
JAN											
26...	100	72	<0.5	<0.5	80	70	<3	<3	7	<5	<5
FEB											
02...	100	78	<0.5	<0.5	80	70	<3	<3	8	5	7
MAR											
23...	70	<5	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<10
MAY											
25...	100	88	<0.5	<0.5	90	90	<3	<3	<5	<5	<5
JUN											
27...	400	90	<2.0	<0.5	80	70	<3	<3	25	<5	10
AUG											
17...	100	64	<0.5	<0.5	120	100	<3	<3	<5	<5	<5
SEP											
25...	100	92	<0.5	<0.5	140	130	<3	<3	<5	<5	<5

05594450 SILVER CREEK NEAR TROY, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV 01...	<5	<5	<5	1700	110	<5	<5	1000	850	<0.05	<5
DEC 15...	<5	8	6	1300	69	<5	<5	830	710	<0.05	10
JAN 26...	<5	9	<5	5500	<50	5	<5	450	240	<0.05	14
FEB 02...	<5	6	<5	1300	<50	<5	<5	240	200	0.10	13
MAR 23...	<10	<5	<5	4900	<50	7	<5	220	63	<0.05	<5
MAY 25...	<5	<5	<5	3300	<50	<5	<5	740	580	<0.05	9
JUN 27...	<5	26	<5	31000	120	24	<5	1800	400	<0.05	32
AUG 17...	<5	7	<5	6400	<50	8	<5	650	450	<0.05	<5
SEP 25...	<5	<5	<5	1900	<50	<5	<5	320	230	<0.05	7

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
NOV 01...	<5	<3	<3.0	170	150	56	--	<100	<100	15	<1
DEC 15...	10	<3	<3.0	190	170	<5	<5	<50	<50	14	1
JAN 26...	6	<3	<3.0	190	160	12	<5	<50	<50	12	<1
FEB 02...	9	6	<5.0	180	180	8	<5	<50	<50	9.7	1
MAR 23...	<5	<3	<3.0	70	53	<5	<5	<50	<50	16	<1
MAY 25...	8	<3	<3.0	160	150	11	5	<50	<50	9.9	<1
JUN 27...	<5	<3	<3.0	180	130	53	<5	110	<50	18	--
AUG 17...	<5	<3	<3.0	120	99	15	<5	160	120	28	<1
SEP 25...	<5	<3	<3.0	160	140	10	<5	<50	<50	11	<1

05594800 SILVER CREEK NEAR FREEBURG, IL

LOCATION.--Lat 38°24'22", long 89°52'26", in NE1/4NE1/4 sec.33, T.1 S., R.7 W., St. Clair County, Hydrologic Unit 07140204, on right bank at downstream side of bridge on U.S. highway 460, 2.2 mi southeast of Freeburg, 4.8 mi northwest of Fayetteville, and at mile 9.6.

DRAINAGE AREA.--464 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1970 to current year.

REVISED RECORDS.--WDR IL-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 381.40 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE --19 years, 350 ft^3/s, 10.24 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,200 ft^3/s, Apr. 14, 1979, gage height, 20.70 ft; minimum daily, 0.41 ft^3/s, Sept. 17, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 22	0530	*4,690	*16.76	Apr. 4	1515	3,360	15.15

Minimum discharge, 2.0 ft^3/s, Aug. 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	7.2	63	162	122	72	1430	58	167	35	40	30
2	10	6.8	46	118	112	61	1660	48	169	99	25	29
3	11	7.4	39	102	161	57	2120	44	203	58	16	40
4	9.1	12	34	132	153	59	3250	43	135	31	12	28
5	5.3	109	30	242	107	70	3000	43	181	26	9.2	29
6	4.3	124	26	979	e80	81	2600	46	266	22	7.6	31
7	3.2	42	24	1170	e60	83	2330	44	93	17	6.7	23
8	3.2	22	24	1310	e50	91	1890	49	51	14	5.5	18
9	3.4	14	23	1360	e46	86	1040	62	35	12	4.1	14
10	3.7	11	23	1170	e43	106	409	74	27	11	3.3	12
11	4.6	92	21	484	e40	369	259	59	22	11	3.4	206
12	4.7	171	20	231	e38	869	202	43	23	10	3.0	233
13	5.2	274	22	169	e50	962	173	39	42	10	2.7	78
14	5.1	299	20	137	82	941	154	37	38	25	2.8	713
15	4.6	143	18	121	93	602	140	37	45	19	4.0	971
16	4.3	217	16	106	183	318	125	35	64	11	4.9	366
17	4.5	537	15	94	209	203	114	30	24	9.0	5.0	177
18	6.7	294	14	85	180	176	106	29	17	8.4	5.5	84
19	23	165	14	80	150	241	108	52	354	8.0	9.9	46
20	18	372	15	71	131	715	96	152	247	8.5	13	28
21	5.8	914	19	63	173	2310	110	144	75	15	25	20
22	3.4	1040	20	57	256	4350	95	164	46	28	19	16
23	6.7	810	77	60	302	3230	80	152	35	23	9.2	15
24	7.0	280	360	52	175	2890	75	98	28	20	13	12
25	9.8	131	401	51	104	2330	71	61	26	119	37	9.6
26	9.6	102	193	125	91	1390	65	77	26	87	63	8.7
27	5.0	246	115	387	85	462	60	178	117	60	104	11
28	3.7	206	170	520	74	277	55	281	375	20	49	10
29	3.4	140	366	299	---	382	58	830	123	14	58	8.4
30	5.9	93	344	183	---	1010	71	1100	53	12	150	6.3
31	8.4	---	182	143	---	1340	---	565	---	19	54	---
TOTAL	207.7	6881.4	2754	10263	3350	26133	21946	4674	3107	861.9	764.8	3273.0
MEAN	6.70	229	88.8	331	120	843	732	151	104	27.8	24.7	109
MAX	23	1040	401	1360	302	4350	3250	1100	375	119	150	971
MIN	3.2	6.8	14	51	38	57	55	29	17	8.0	2.7	6.3
CFSM	.01	.49	.19	.71	.26	1.82	1.58	.32	.22	.06	.05	.24
IN.	.02	.55	.22	.82	.27	2.10	1.76	.37	.25	.07	.06	.26

CAL YR 1988 TOTAL 97040.9 MEAN 265 MAX 6210 MIN 2.5 CFSM .57 IN. 7.78
WTR YR 1989 TOTAL 84215.8 MEAN 231 MAX 4350 MIN 2.7 CFSM .50 IN. 6.75

e Estimated

05594800 SILVER CREEK NEAR FREEBURG, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.58	1.48	2.58	2.18	1.60	9.44	1.37	2.95	1.02	1.19	.80
2	.58	.57	1.20	2.14	1.98	1.43	10.31	1.23	2.62	1.98	.86	.72
3	.63	.57	1.09	1.89	2.53	1.35	11.41	1.17	3.12	1.44	.66	1.02
4	.60	.63	1.00	2.21	2.54	1.37	14.99	1.13	2.63	.95	.57	.79
5	.49	1.34	.93	2.60	1.89	1.48	14.66	1.14	2.14	.84	.49	.68
6	.45	2.61	.85	7.68	1.66	1.69	13.71	1.18	4.04	.78	.44	.85
7	.41	1.32	.81	8.43	1.61	1.65	13.09	1.15	2.11	.68	.43	.68
8	.41	.89	.81	8.98	1.36	1.76	11.81	1.18	1.51	.60	.38	.57
9	.42	.71	.77	9.35	1.14	1.74	8.72	1.44	1.22	.55	.33	.49
10	.44	.64	.80	8.93	1.28	1.71	4.67	1.56	1.07	.53	.30	.44
11	.48	1.49	.75	5.35	1.23	3.49	3.49	1.42	.97	.52	.29	2.41
12	.50	2.97	.73	3.27	1.18	7.06	2.97	1.15	.95	.51	.28	3.56
13	.50	3.39	.76	2.69	1.37	7.56	2.69	1.07	1.29	.51	.27	1.64
14	.52	4.30	.72	2.33	1.72	7.65	2.50	1.04	1.30	.79	.27	4.99
15	.50	2.74	.69	2.17	1.66	6.06	2.38	1.04	1.09	.74	.31	8.06
16	.49	2.08	.65	2.00	2.45	4.03	2.21	1.02	1.83	.53	.34	4.36
17	.48	5.96	.62	1.86	3.07	3.03	2.07	.92	1.04	.48	.36	2.89
18	.55	4.18	.61	1.72	2.73	2.47	2.00	.90	.86	.46	.36	1.87
19	.66	2.92	.58	1.69	2.50	3.50	1.97	.88	3.07	.45	.46	1.34
20	.90	3.16	.61	1.55	2.22	3.37	1.87	1.95	3.64	.45	.73	1.02
21	.57	7.82	.69	1.47	2.51	9.92	2.02	2.37	1.61	.50	.78	.84
22	.44	7.98	.71	1.33	3.21	16.71	1.89	2.60	1.14	.89	.73	.74
23	.57	7.47	.83	1.41	3.95	15.04	1.68	2.45	.96	.78	.49	.70
24	.58	3.79	3.93	1.31	2.79	14.40	1.61	2.00	.83	.70	.47	.64
25	.61	2.35	4.77	1.20	1.93	13.27	1.56	1.39	.76	2.02	1.04	.59
26	.69	1.85	3.01	1.86	1.72	10.36	1.48	1.53	.78	1.66	1.21	.56
27	.52	3.36	2.05	3.82	1.76	5.06	1.42	2.66	1.01	1.56	2.12	.62
28	.48	3.08	2.37	5.47	1.59	3.59	1.32	3.74	4.80	.75	1.30	.61
29	.44	2.43	4.00	3.92	---	3.52	1.33	6.67	2.32	.60	.90	.58
30	.52	1.89	4.28	2.84	---	7.68	1.58	8.33	1.35	.53	2.75	.50
31	.61	---	2.50	2.41	---	9.38	---	6.12	---	.72	1.25	---
MEAN	.53	2.84	1.47	3.43	2.06	5.58	5.09	2.06	1.83	.82	.72	1.52
MAX	.90	7.98	4.77	9.35	3.95	16.71	14.99	8.33	4.80	2.02	2.75	8.06
MIN	.41	.57	.58	1.20	1.14	1.35	1.32	.88	.76	.45	.27	.44

05594800 SILVER CREEK NEAR FREEBURG, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT												
17...	0900	17002	17002	4.4	874	6.50	14.5	6.1	7.3	24	K110	240
NOV												
17...	0900	17002	17002	582	130	6.40	11.5	200	6.3	100	20000	33
JAN												
10...	0900	17002	17002	1260	273	7.60	1.5	150	10.8	43	K20	75
FEB												
06...	0900	17002	17002	80	639	7.90	0.0	24	13.1	25	K150	200
MAR												
20...	1130	81700	80020	485	361	7.10	7.0	--	10.8	--	--	--
APR												
04...	0900	17002	17002	3290	216	6.80	10.5	200	7.6	45	K1200	60
MAY												
01...	0900	17002	17002	60	713	--	18.0	6.7	7.1	26	K20	260
23...	1130	81700	80020	152	550	7.80	19.5	--	6.1	--	--	--
JUN												
26...	1400	17002	17002	26	562	7.50	28.0	5.5	6.3	25	K160	220
AUG												
02...	0900	17002	17002	27	578	7.60	25.0	17	5.7	24	200	180
31...	0900	17002	17002	54	252	7.00	24.0	130	5.0	35	K300	74

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT												
17...	49	<1.0	62	58	25	24	83	79	9.0	8.2	195	130
NOV												
17...	33	<1.0	22	8.5	12	2.9	5.7	3.8	9.0	2.9	<10	26
JAN												
10...	65	--	25	19	9.6	6.7	12	9.9	4.1	2.6	10	34
FEB												
06...	38	--	56	48	22	19	38	32	4.0	3.1	160	100
MAR												
20...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
04...	60	--	22	16	7.4	4.9	9.7	8.1	4.9	2.8	<10	36
MAY												
01...	60	--	70	63	28	25	36	33	4.8	3.7	201	120
23...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
26...	55	--	58	56	21	20	33	32	5.8	6.1	168	66
AUG												
02...	22	--	47	42	19	17	42	39	7.9	7.2	153	62
31...	44	--	24	19	9.0	6.5	14	12	8.1	6.2	30	29

05594800 SILVER CREEK NEAR FREEBURG, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
17...	75	491	26	3	3.70	--	<0.100	<0.001	1.30	1.10	700
NOV											
17...	11	56	1040	110	0.540	--	0.380	<0.001	2.70	0.420	39000
JAN											
10...	18	97	179	19	1.20	--	0.100	<0.001	0.650	0.300	7500
FEB											
06...	43	346	27	5	1.80	--	0.460	0.003	0.720	0.540	580
MAR											
20...	--	--	--	--	--	1.60	--	--	--	--	--
APR											
04...	11	79	114	17	0.860	--	0.190	<0.001	0.590	0.200	6900
MAY											
01...	39	403	62	8	0.980	--	0.260	--	0.420	0.250	1100
23...	--	--	--	--	--	1.80	--	--	--	--	--
JUN											
25...	32	314	69	8	2.00	--	<0.100	<0.002	0.360	0.220	2200
AUG											
02...	44	303	60	7	1.40	--	<0.100	<0.002	0.620	0.470	2000
31...	17	108	229	25	1.00	--	0.120	<0.001	0.910	0.620	7500

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
17...	<50	90	67	<0.5	<0.5	210	200	<3	<3	<5	<5
NOV											
17...	300	500	23	<1.0	<0.5	60	<50	<3	<3	45	<5
JAN											
10...	<50	100	40	<0.5	<0.5	<50	<50	<3	<3	8	<5
FEB											
06...	60	80	58	<0.5	<0.5	80	70	<3	<3	<5	6
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	<50	200	38	<0.5	<0.5	<50	<50	<3	<3	11	<5
MAY											
01...	60	100	89	<0.5	<0.5	100	90	--	--	5	<5
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
26...	180	100	98	<0.5	<0.5	120	110	<3	<3	<5	<5
AUG											
02...	<50	100	79	<0.5	<0.5	150	--	<3	<3	<5	<5
31...	50	200	37	<0.5	<0.5	70	50	<3	<3	8	<5

05594800 SILVER CREEK NEAR FREEBURG, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
OCT											
17...	<5	<5	<5	<5	1000	<50	<5	<5	340	250	<0.05
NOV											
17...	20	<5	35	<5	55000	350	45	<5	2000	70	0.05
JAN											
10...	<5	<5	10	<5	8900	69	9	<5	300	86	<0.05
FEB											
06...	<5	6	<5	<5	1100	<50	<5	<5	230	170	0.06
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	6	<5	11	<5	9000	<50	10	<5	320	26	<0.05
MAY											
01...	<5	<5	<5	<5	1700	<50	<5	<5	660	500	<0.05
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
26...	<5	<5	<5	<5	2700	<50	<5	<5	590	420	<0.05
AUG											
02...	<5	<5	<5	<5	2600	<50	<5	<5	450	260	<0.05
31...	6	<5	13	<5	11000	<50	13	<5	470	56	0.07

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI- METRIC (MG/L) (00556)
OCT											
17...	6	<5	<3	<3.0	210	200	<10	<10	<50	<50	1
NOV											
17...	45	<5	<3	<3.0	100	28	84	<5	180	<50	<1
JAN											
10...	6	<5	<3	<3.0	90	62	15	<5	<50	<50	<1
FEB											
06...	<5	7	<3	--	190	160	<5	5	100	<100	<1
MAR											
20...	--	--	--	--	--	--	--	--	--	--	--
APR											
04...	12	<5	<3	<3.0	100	70	17	<5	<50	<50	1
MAY											
01...	5	6	<3	<3.0	210	190	6	<5	<50	<50	<1
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
26...	5	7	<3	<3.0	180	170	8	<5	<50	<50	--
AUG											
02...	<5	<5	<3	<3.0	160	140	10	<5	<100	<100	--
31...	25	<5	<3	<3.0	80	55	24	<5	260	--	--

05595200 RICHLAND CREEK NEAR HECKER, IL

LOCATION.--Lat 38°19'26", long 89°58'15", in SW1/4SE1/4 sec.27 projected, T.2 S., R.8 W., St. Clair County, Hydrologic Unit 07140204, on left bank at downstream side of bridge on State Highway 156, 2 mi northeast of Hecker, 5 mi west of New Athens, and at mile 17.3.

DRAINAGE AREA.--129 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 375.00 ft above National Geodetic Vertical Datum of 1929. June 28, 1976, to Nov. 9, 1978, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--20 years, 108 ft^3/s, 11.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,900 ft^3/s, Nov. 2, 1972, gage height, 42.88 ft; minimum daily, 4.2 ft^3/s, Oct. 17, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 20	2230	4,400	40.06	Apr. 4	0245	*5,200	*40.50

Minimum daily discharge, 5.9 ft^3/s, Nov. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	9.9	22	28	27	22	214	26	35	24	12	17
2	18	9.9	19	33	88	22	740	25	92	66	11	19
3	9.7	11	18	146	160	24	2150	26	31	21	10	11
4	8.4	99	17	149	58	27	2570	26	27	16	10	9.8
5	7.8	146	16	534	e45	40	287	27	283	14	9.6	10
6	7.9	15	17	1270	e30	40	153	23	50	13	9.3	10
7	7.8	7.6	17	202	e25	47	118	22	31	13	8.6	11
8	7.6	6.2	15	91	e20	36	124	22	25	11	8.9	9.8
9	7.7	5.9	15	51	e18	39	92	130	22	11	8.9	9.1
10	7.0	47	15	41	e16	133	75	42	20	10	8.6	9.2
11	7.5	20	14	38	e15	733	66	27	20	10	8.6	8.5
12	7.1	140	14	42	e18	549	61	24	53	10	8.7	9.0
13	7.0	96	15	32	86	174	57	23	31	34	8.5	12
14	6.9	17	16	29	66	96	54	22	28	13	8.3	1610
15	6.9	13	16	33	175	64	51	21	22	9.7	8.8	214
16	7.2	388	15	29	158	47	49	21	18	9.8	8.6	34
17	7.7	25	15	27	53	42	46	20	16	9.7	9.1	20
18	13	11	15	26	41	38	42	19	117	9.8	8.8	15
19	7.9	118	16	24	40	33	40	83	484	9.8	8.7	13
20	8.0	1180	17	22	79	1670	38	107	51	31	55	12
21	9.8	275	17	19	111	1580	37	27	32	50	67	11
22	8.2	49	33	19	46	222	36	76	26	19	17	12
23	28	31	142	20	33	124	35	88	22	14	11	10
24	15	25	40	22	29	94	34	33	20	13	13	9.3
25	10	21	26	65	26	77	32	96	18	12	11	9.0
26	9.3	173	22	183	29	66	30	62	17	12	10	9.1
27	8.7	86	78	63	26	58	29	29	123	11	29	9.0
28	20	35	160	38	24	78	28	56	25	14	25	9.0
29	11	24	52	40	---	393	57	443	18	12	54	9.3
30	10	21	32	35	---	1060	30	55	16	89	14	9.1
31	9.9	---	27	30	---	1320	---	34	---	17	11	---
TOTAL	324.0	3105.5	953	3381	1542	8948	7375	1735	1773	608.8	492.0	2160.2
MEAN	10.5	104	30.7	109	55.1	289	246	56.0	59.1	19.6	15.9	72.0
MAX	28	1180	160	1270	175	1670	2570	443	484	89	67	1610
MIN	6.9	5.9	14	19	15	22	28	19	16	9.7	8.3	8.5
CFSM	.08	.80	.24	.85	.43	2.24	1.91	.43	.46	.15	.12	.56
IN.	.09	.90	.27	.97	.44	2.58	2.13	.50	.51	.18	.14	.62

CAL YR 1988 TOTAL 30309.0 MEAN 82.8 MAX 4050 MIN 5.9 CFSM .64 IN. 8.74
WTR YR 1989 TOTAL 32397.5 MEAN 88.8 MAX 2570 MIN 5.9 CFSM .69 IN. 9.34

e Estimated

05595200 RICHLAND CREEK NEAR HECKER, IL--Continued

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.53	24.60	25.17	25.36	25.36	25.15	28.59	25.30	25.32	24.85	24.75	24.63
2	25.03	24.58	25.03	25.49	25.24	25.11	27.37	25.23	27.03	26.89	24.65	25.04
3	24.57	24.62	24.99	25.82	28.33	25.18	37.69	25.25	25.40	25.11	24.64	24.73
4	24.44	24.54	24.98	27.73	26.37	25.31	39.55	25.28	25.34	24.93	24.60	24.58
5	24.39	28.01	24.92	26.08	26.02	25.96	29.37	25.31	32.07	24.81	24.51	24.60
6	24.39	25.23	24.95	37.60	25.60	25.25	27.75	25.18	26.02	24.81	24.54	24.60
7	24.38	24.74	24.94	28.44	25.42	26.14	27.26	25.16	25.48	24.77	24.47	24.72
8	24.38	24.61	24.88	26.95	25.34	25.58	27.28	25.13	25.26	24.67	24.52	24.57
9	24.43	24.55	24.84	26.04	24.87	25.70	26.85	25.76	25.18	24.72	24.52	24.52
10	24.36	26.82	24.85	25.75	25.09	25.91	26.54	25.79	25.03	24.62	24.49	24.58
11	24.41	25.43	24.83	25.62	25.19	30.31	26.34	25.33	25.05	24.68	24.50	24.49
12	24.37	25.14	24.67	25.81	25.15	31.61	26.22	25.19	26.10	24.62	24.45	24.53
13	24.36	27.13	24.86	25.51	25.36	28.12	26.13	25.17	25.41	26.12	24.51	24.50
14	24.36	25.27	24.89	25.37	26.34	26.90	26.06	25.12	25.52	24.77	24.50	38.07
15	24.36	24.98	24.88	25.54	25.94	26.37	25.97	25.08	25.16	24.59	24.53	28.39
16	24.38	33.40	24.78	25.42	27.89	25.89	25.95	25.08	24.98	24.61	24.50	25.64
17	24.40	25.59	24.61	25.34	26.09	25.77	25.87	25.07	24.91	24.59	24.53	25.08
18	24.87	24.98	24.74	25.29	25.77	25.67	25.76	25.01	24.91	24.60	24.51	24.91
19	24.41	27.57	24.90	25.23	25.73	25.52	25.74	25.02	32.30	24.59	24.50	24.77
20	24.40	33.60	24.96	25.15	25.65	28.60	25.64	27.04	26.07	24.57	25.37	24.67
21	24.60	29.00	24.89	25.03	27.30	37.78	25.59	25.34	25.51	25.92	25.90	24.62
22	24.43	26.01	24.84	25.07	25.95	28.69	25.59	25.15	25.27	25.07	24.97	24.59
23	24.55	25.49	28.09	25.06	25.71	27.38	25.55	26.78	25.15	24.79	24.69	24.62
24	24.86	25.29	25.64	25.16	25.61	26.90	25.51	25.53	25.03	24.80	24.67	24.58
25	24.62	25.12	25.32	25.06	25.27	26.59	25.47	25.37	24.99	24.74	24.69	24.53
26	24.54	26.38	25.11	28.04	25.42	26.37	25.38	26.22	24.95	24.72	24.59	24.52
27	24.50	27.01	25.44	26.33	25.33	26.14	25.38	25.43	28.93	24.65	24.61	24.53
28	25.36	25.60	28.19	25.69	25.24	26.05	25.33	25.17	25.30	24.65	24.88	24.53
29	24.64	25.26	26.09	25.76	---	26.80	26.45	33.53	24.99	24.73	26.16	24.56
30	24.61	25.13	25.52	25.60	---	35.09	25.45	26.12	24.89	28.66	24.83	24.54
31	24.59	---	25.34	25.45	---	37.71	---	25.54	---	25.00	24.65	---
MEAN	24.53	26.19	25.23	26.19	25.81	27.60	27.12	25.70	25.92	25.02	24.72	25.24
MAX	25.36	33.60	28.19	37.60	28.33	37.78	39.55	33.53	32.30	28.66	26.16	38.07
MIN	24.36	24.54	24.61	25.03	24.87	25.11	25.33	25.01	24.89	24.57	24.45	24.49

05595200 RICHLAND CREEK NEAR HECKER, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
OCT												
17...	1000	17002	17002	8.6	1120	6.50	17.5	4.3	8.2	27	--	390
NOV												
17...	1000	17002	17002	22	415	7.60	8.0	140	9.2	38	--	K6000
JAN												
10...	1000	17002	17002	42	833	7.90	1.5	27	12.2	18	--	840
FEB												
06...	1100	17002	17002	30	1010	7.80	0.0	17	13.2	20	--	K110
APR												
04...	1100	17002	17002	2510	207	6.80	11.0	19	8.0	62	--	2700
MAY												
01...	1100	17002	17002	27	1030	--	15.5	5.6	7.8	19	--	K140
JUN												
26...	1300	17002	17002	17	1020	7.70	27.0	6.0	7.1	18	--	340
29...	0600	17002	17002	19	792	7.10	24.0	15	5.8	20	5.0	6000
AUG												
31...	1000	17002	17002	12	810	7.50	23.5	18	6.9	22	--	K7000
SEP												
19...	0700	17002	17002	14	720	7.50	17.5	22	7.3	22	--	K400

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
OCT												
17...	270	110	<1.0	71	66	27	25	120	110	14	13	154
NOV												
17...	130	100	--	46	37	14	10	22	18	7.3	4.9	32
JAN												
10...	290	150	--	81	74	28	25	41	38	4.6	4.1	137
FEB												
06...	320	150	--	94	82	32	28	65	58	5.8	4.9	172
APR												
04...	58	58	--	26	16	8.5	4.3	6.6	4.8	5.0	2.1	<10
MAY												
01...	370	210	--	110	96	35	31	56	50	6.6	5.7	156
JUN												
26...	410	240	--	110	110	35	34	66	65	7.7	8.2	170
29...	300	160	--	90	79	29	25	47	42	7.9	6.7	137
AUG												
31...	230	110	--	68	60	22	19	65	59	8.9	8.0	123
SEP												
19...	200	91	--	62	53	20	17	51	44	11	8.9	112

05595200 RICHLAND CREEK NEAR HECKER, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
17...	220	95	622	12	2	16.0	<0.100	<0.001	4.50	4.40	340
NOV											
17...	100	22	215	230	30	2.20	0.360	0.002	1.00	0.245	12000
JAN											
10...	190	51	470	35	5	5.00	0.280	0.002	0.756	0.550	1200
FEB											
06...	240	72	586	18	3	6.40	0.420	0.002	1.20	1.00	490
APR											
04...	42	9.3	79	16	3	0.760	0.290	<0.001	0.740	0.120	14000
MAY											
01...	460	55	790	30	4	4.50	0.580	--	0.500	0.410	690
JUN											
26...	240	62	623	28	4	6.40	<0.100	<0.003	1.30	1.20	950
29...	220	45	497	94	9	4.90	0.330	0.002	0.990	0.920	1900
AUG											
31...	160	60	437	36	5	8.10	0.180	0.003	1.70	1.60	1100
SEP											
19...	150	49	386	75	7	9.10	0.100	0.001	1.66	1.40	1500

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
17...	<50	40	33	<0.5	<0.5	760	710	<3	<3	<5	<5
NOV											
17...	90	200	47	<0.5	<0.5	210	150	<3	<3	12	<5
JAN											
10...	90	70	54	<0.5	<0.5	290	260	<3	<3	<5	<5
FEB											
06...	60	60	47	<0.5	<0.5	330	290	<3	<3	<5	<5
APR											
04...	<50	300	34	<2.0	<0.5	60	<50	<3	<3	18	<5
MAY											
01...	120	80	65	<0.5	<0.5	390	350	--	--	6	5
JUN											
26...	240	100	89	<2.0	<2	570	560	<3	<3	<5	6
29...	180	100	81	<1.0	<0.5	560	490	<3	<3	<5	<5
AUG											
31...	80	70	50	<0.5	<0.5	530	470	<3	<3	<5	<5
SEP											
19...	80	80	56	<0.5	<0.5	430	370	<3	<3	<5	<5

05595200 RICHLAND CREEK NEAR HECKER, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT											
17...	<5	<5	<5	<5	590	56	<5	<5	100	75	<0.05
NOV											
17...	<5	<5	8	<5	16000	63	14	11	1000	490	<0.05
JAN											
10...	6	<5	5	<5	1900	<50	<5	<5	310	250	<0.05
FEB											
06...	<5	<5	<5	<5	1100	<50	<5	<5	350	280	--
APR											
04...	10	<5	19	<5	20000	<50	24	<5	770	71	<0.05
MAY											
01...	<5	<5	<5	<5	980	<50	<5	<5	770	650	<0.05
JUN											
26...	<5	<5	<5	<5	1000	<50	<5	<5	220	170	<0.05
29...	<5	<5	<5	<5	2400	<50	<5	<5	230	100	<0.05
AUG											
31...	<5	<5	<5	<5	1500	<50	<5	<5	200	130	<0.05
SEP											
19...	<5	<5	<5	<5	2100	<50	<5	<5	260	170	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L) (00556)
OCT											
17...	79	72	<3	<3.0	260	240	16	<5	<100	<100	--
NOV											
17...	28	9	<3	<3.0	150	110	22	<5	<100	<100	<1
JAN											
10...	12	10	<3	<3.0	250	230	7	<5	<50	<50	1
FEB											
06...	12	12	<3	<3.0	280	250	<5	<5	<100	<100	1
APR											
04...	17	<5	<3	<3.0	110	60	31	<5	<100	<100	3
MAY											
01...	22	18	<3	<3.0	300	260	<5	<5	<50	<50	1
JUN											
26...	20	19	<3	<3.0	300	290	<5	6	<50	<50	--
29...	16	16	<3	<3.0	260	220	6	<5	<50	<50	--
AUG											
31...	14	12	<3	<3.0	210	190	<5	<5	<100	<100	--
SEP											
19...	17	16	<3	<3.0	190	170	6	<5	<50	<50	--

05595540 MARYS RIVER AT WELGE, IL

LOCATION.--Lat 37°57'22", long 89°42'22", in NE1/4 sec.1, T.7 S., R.6 W., Randolph County, Hydrologic Unit 07140105, at bridge on county road, 0.2 mi upstream from Hornbostel Branch, 0.3 mi west of Welge, 7.3 mi upstream from Little Marys River, and at mile 16.7.

DRAINAGE AREA.--113 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1968-77 are published in Water-Resources Investigations 78-24 and 79-25 as site II 03.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)
NOV 07...	0800	17002	17002	--	934	7.50	8.0	24	7.3	37	K1800
DEC 19...	0800	17002	17002	--	1980	8.00	0.5	7.9	12.8	19	K70
JAN 31...	0800	17002	17002	20	1220	8.00	6.5	13	10.3	20	K110
FEB 27...	0800	17002	17002	24	1260	7.60	3.5	6.8	10.9	14	K50
APR 05...	0800	17002	17002	870	415	7.00	11.5	66	7.6	47	K860
MAY 03...	0800	17002	17002	13	2160	--	14.5	2.9	--	16	220
JUN 13...	0800	17002	17002	32	1050	7.50	21.0	21	5.4	24	7500
AUG 09...	0800	17002	17002	2.3	2750	7.60	21.0	1.5	2.6	16	K150
SEP 18...	0800	17002	17002	9.5	1630	7.30	17.5	32	4.6	22	K1400

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
NOV 07...	330	240	91	80	36	32	70	62	8.8	7.3	96
DEC 19...	850	610	210	190	94	89	170	170	7.9	7.6	241
JAN 31...	420	260	110	99	48	43	77	71	4.4	4.0	169
FEB 27...	520	340	130	120	61	54	79	73	4.2	3.7	161
APR 05...	150	86	44	38	16	13	25	22	4.5	3.1	63
MAY 03...	820	590	210	180	99	89	180	160	5.5	5.0	240
JUN 13...	400	260	110	95	46	40	69	61	5.7	4.1	140
AUG 09...	1100	880	270	240	140	130	230	210	6.8	6.2	248
SEP 18...	540	410	140	120	61	54	150	140	7.6	7.0	126

05595540 MARYS RIVER AT WELGE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
NOV 07...	400	109	11	0.290	<0.100	<0.001	0.560	0.380	7700	3400	90
DEC 19...	1000	--	--	0.540	0.390	0.004	0.400	0.340	120	<50	50
JAN 31...	490	34	5	0.520	0.160	0.002	0.190	0.080	710	100	60
FEB 27...	520	14	3	0.830	0.250	0.001	0.171	0.110	350	90	50
APR 05...	150	78	9	0.240	<0.100	<0.001	0.220	0.070	2900	110	70
MAY 03...	1100	22	3	0.290	0.200	--	0.140	0.070	990	450	80
JUN 13...	420	75	9	0.860	0.180	0.003	0.249	0.120	5200	1800	100
AUG 09...	1500	23	4	0.360	0.370	0.007	0.266	0.200	700	<50	100
SEP 18...	790	91	12	0.740	0.280	0.002	0.150	0.091	1900	110	90

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
NOV 07...	68	<0.5	<0.5	130	110	<3	<3	7	<5	<5
DEC 19...	48	<0.5	<0.5	240	230	<3	<3	<5	<5	6
JAN 31...	51	<0.5	<0.5	110	100	<3	<3	<5	<5	5
FEB 27...	45	<0.5	<0.5	120	110	<3	<3	6	<5	<5
APR 05...	38	<0.5	<0.5	60	50	<3	<3	6	<5	<5
MAY 03...	70	<1.0	<1	230	200	--	--	10	8	<5
JUN 13...	82	<2.0	2	100	90	<3	<3	10	7	<5
AUG 09...	130	<0.5	<0.5	300	270	<3	<3	<5	<5	<5
SEP 18...	66	<0.5	<0.5	230	210	<3	<3	<5	<5	<5

05595540 MARYS RIVER AT WELGE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
NOV										
07...	<5	7	<5	7200	3200	<5	<5	580	480	0.06
DEC										
19...	<5	<5	<5	420	<50	<5	<5	610	570	<0.05
JAN										
31...	<5	<5	--	1300	<50	<5	<5	480	410	<0.05
FEB										
27...	<5	<5	<5	660	<50	<5	<5	600	530	<0.05
APR										
05...	<5	<5	<5	3800	54	<5	<5	160	59	<0.05
MAY										
03...	<5	<5	<5	810	<50	<5	<5	630	540	<0.05
JUN										
13...	<5	10	6	4300	<50	<5	<5	410	220	0.05
AUG										
09...	<5	<5	<5	770	<50	<5	<5	1700	1500	<0.05
SEP										
18...	<5	<5	<5	2300	<50	<5	<5	800	670	<0.05

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, TOTAL RECOV- ERABLE (UG/L AS SR) (01082)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, TOTAL (UG/L AS V) (01087)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
NOV										
07...	<5	<5	<3	<3.0	530	460	19	10	<100	<100
DEC										
19...	15	14	<5	<3.0	1300	1300	<5	<5	<50	<50
JAN										
31...	11	10	<3	<3.0	540	490	5	<5	<50	<50
FEB										
27...	11	<5	<3	<3.0	670	610	<5	<5	<50	<50
APR										
05...	13	8	<3	<3.0	230	190	<5	<5	<50	<50
MAY										
03...	14	--	<3	<3.0	1400	1300	8	7	<50	<50
JUN										
13...	9	8	<3	<3.0	610	540	14	5	<50	<50
AUG										
09...	<10	<10	<3	<3.0	2200	2000	<5	<5	<50	<50
SEP										
18...	9	10	<3	<3.0	940	840	8	<5	<50	<50

05595700 BIG MUDDY RIVER NEAR MT. VERNON, IL

LOCATION.--Lat 38°18'36", long 89°59'18", in SE1/4NW1/4 sec.33, T.2 S., R.2 E., Jefferson County, Hydrologic Unit 07140106, on left bank at downstream side of bridge on State Highway 15, 0.5 mi downstream from Harper Creek, 4.7 mi west of Mt. Vernon, 8.9 mi downstream from Snow Creek, and at mile 133.2.

DRAINAGE AREA.--71.9 mi^2.

WATER-STAGE RECORDS

PERIOD OF RECORD.--October 1979 to current year (gage heights only). Gage-height record for February 1965 to September 1979 available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 425.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.81 ft, Nov. 19, 1985; minimum, 0.05 ft, Oct. 1-3, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 10.68 ft, Apr. 4; minimum, 0.39 ft, Aug. 15.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.53	1.78	2.27	1.99	1.98	6.58	1.60	1.51	1.28	.78	1.00
2	1.00	.52	1.71	2.79	2.67	1.92	5.13	1.55	1.34	1.11	.66	.89
3	.96	.51	1.65	4.53	8.78	1.93	9.93	1.50	1.10	1.05	.62	.76
4	1.04	1.28	1.60	5.75	4.16	2.83	10.19	1.47	1.10	1.07	.58	.67
5	.93	5.03	1.53	4.21	2.75	5.13	6.46	1.55	5.85	1.06	.56	.63
6	.85	2.78	1.48	9.63	2.35	3.64	3.56	1.57	4.00	1.03	.55	.61
7	.80	1.92	1.43	6.77	2.08	2.75	2.93	1.64	2.09	.94	.53	.60
8	.75	1.64	1.41	6.28	1.97	2.67	2.72	1.60	1.68	.84	.50	.58
9	.71	1.28	1.39	3.14	1.86	3.76	2.56	1.62	1.43	.79	.49	.55
10	.68	1.32	1.34	2.49	1.81	6.04	2.29	1.65	1.23	.75	.47	.55
11	.63	2.15	1.26	2.27	1.83	5.96	2.17	---	1.08	.74	.46	.53
12	.60	1.99	1.19	2.30	1.85	3.70	2.11	---	1.05	.72	.44	.52
13	.57	1.84	1.17	2.27	4.03	2.97	2.06	---	2.23	.99	.42	.51
14	.54	1.81	1.14	2.08	9.38	3.08	1.99	---	3.78	1.13	.41	2.04
15	.53	1.82	1.08	2.17	7.16	2.65	1.96	---	1.94	.93	.40	2.93
16	.53	3.79	1.06	2.20	7.15	2.27	1.93	---	1.49	.81	.40	1.62
17	.53	3.94	1.08	2.06	3.76	2.14	1.88	---	1.21	.74	.42	1.19
18	.54	2.21	1.07	1.99	2.95	2.09	1.83	---	1.12	.69	.43	.90
19	.53	2.14	1.06	1.93	2.66	1.99	1.80	---	1.25	.67	.44	.81
20	.52	6.36	1.06	1.86	3.30	6.41	1.77	---	1.15	.65	.98	.72
21	.52	6.05	1.01	1.79	6.75	9.62	1.73	---	1.05	.63	2.55	.67
22	.52	2.64	.99	1.74	3.65	5.01	1.70	---	.96	.61	1.25	.62
23	.56	2.13	3.85	1.73	2.55	3.20	1.67	---	.88	.60	.89	.58
24	.60	1.94	2.77	1.74	2.22	2.69	1.65	2.13	6.17	.64	.76	.55
25	.68	1.82	2.33	1.77	2.15	2.43	1.64	1.82	2.21	2.04	.65	.53
26	.65	2.09	1.98	3.70	2.21	2.28	1.61	2.36	1.48	1.75	.59	.51
27	.62	4.55	1.89	3.59	2.16	2.18	1.58	2.30	3.67	1.19	.56	.49
28	.62	2.82	3.99	2.49	2.08	2.14	1.60	1.69	4.17	.95	.57	.46
29	.58	2.13	3.74	2.25	---	3.57	1.63	2.81	2.16	.83	.77	.46
30	.56	1.90	3.13	2.19	---	9.95	1.62	2.38	1.60	.75	1.56	.47
31	.54	---	2.46	2.08	---	9.82	---	1.75	---	.72	1.32	---
MEAN	.66	2.43	1.76	3.03	3.51	3.83	2.94	---	2.07	.93	.71	.80
MAX	1.04	6.36	3.99	9.63	9.38	9.95	10.19	---	6.17	2.04	2.55	2.93
MIN	.52	.51	.99	1.73	1.81	1.92	1.58	---	.88	.60	.40	.46

05595700 BIG MUDDY RIVER NEAR MT. VERNON, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site N 08.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT 18...	1200	17002	17002	0.05	445	7.00	14.0	23	3.0	25	K50	120
NOV 16...	1000	17002	17002	20	518	7.20	12.5	140	6.0	39	K1500	180
FEB 02...	1000	17002	17002	15	960	7.60	7.0	20	10.0	19	K70	300
MAR 01...	1000	17002	17002	16	812	7.40	1.5	5.4	9.6	10	K30	310
APR 11...	1000	17002	17002	17	727	7.30	7.5	21	9.8	13	K80	230
MAY 17...	1000	17002	17002	3.8	1220	7.40	17.0	22	4.1	19	K30	360
JUN 12...	1100	17002	17002	1.9	555	7.30	21.0	25	4.8	25	K1500	170
AUG 15...	1100	17002	17002	0.04	856	7.50	21.5	11	4.0	22	K170	250
30...	1000	17002	17002	12	394	7.20	24.0	26	2.7	46	<10	120

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 18...	50	30	28	13	13	27	26	4.1	3.7	74	59
NOV 16...	110	44	39	22	19	30	28	7.0	5.5	63	130
FEB 02...	190	71	62	39	34	67	58	3.7	3.1	107	270
MAR 01...	210	70	64	40	37	58	54	3.1	2.8	104	260
APR 11...	140	55	49	29	26	53	47	2.9	3.1	91	87
MAY 17...	190	89	77	48	41	100	88	3.8	3.6	176	310
JUN 12...	82	45	40	21	18	38	34	4.0	2.9	92	120
AUG 15...	95	61	56	29	27	69	64	5.0	4.4	157	170
30...	34	28	27	12	12	26	26	8.2	6.9	83	59

05595700 BIG MUDDY RIVER NEAR MT. VERNON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
18...	31	4	0.160	<0.100	<0.001	--	0.90	1.1	0.180	0.020	1100
NOV											
16...	160	19	0.100	<0.100	<0.001	--	1.3	1.4	0.712	0.120	7500
FEB											
02...	32	7	0.220	<0.100	<0.001	--	1.0	1.3	0.100	0.020	650
MAR											
01...	11	2	0.420	<0.100	<0.001	--	0.40	0.82	0.050	0.020	260
APR											
11...	26	4	0.230	0.250	<0.001	0.35	0.60	0.83	0.080	0.010	1300
MAY											
17...	45	7	<0.100	0.170	0.001	0.53	0.70	--	0.070	0.020	1400
JUN											
12...	98	10	0.450	0.110	<0.001	0.99	1.1	1.5	0.210	0.030	4600
AUG											
15...	24	4	0.140	0.220	0.003	0.58	0.80	0.94	0.110	0.040	630
30...	49	11	<0.100	0.130	0.001	2.7	2.8	--	0.360	0.040	970

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
18...	<50	50	39	<0.5	<0.5	<50	<50	<3	<3	7	<5
NOV											
16...	110	100	55	<0.5	<0.5	<50	--	<3	<3	11	<5
FEB											
02...	60	80	62	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR											
01...	90	60	49	<0.5	<0.5	<50	<50	<3	<3	8	6
APR											
11...	200	80	60	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAY											
17...	390	100	110	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JUN											
12...	1000	100	52	<2.0	<2	<50	<50	<3	<3	8	<5
AUG											
15...	70	80	57	<0.5	<0.5	<50	<50	<3	<3	5	<5
30...	100	60	41	<0.5	<0.5	<50	<50	<3	<3	<5	<5

05595700 BIG MUDDY RIVER NEAR MT. VERNON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT 18...	<5	<5	<5	<5	2200	58	29	<5	780	680	<0.05
NOV 16...	<5	<5	<5	<5	8300	76	8	--	680	280	<0.05
FEB 02...	<5	<5	<5	<5	1300	<50	<5	<5	380	310	<0.05
MAR 01...	5	<5	<5	<5	690	<50	<5	<5	400	350	<0.05
APR 11...	<5	<5	<5	<5	1800	<50	<5	<5	390	320	<0.05
MAY 17...	<5	<5	<5	<5	1500	<50	<5	<5	1200	1000	<0.05
JUN 12...	<5	<5	6	<5	4800	<50	<5	<5	740	560	0.08
AUG 15...	<5	<5	<5	<5	940	<50	<5	<5	1500	1300	<0.05
30...	<5	<5	<5	<5	2200	120	<5	<5	1900	1600	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 18...	6	<5	<3	<3.0	170	160	<10	<10	<50	<50	10
NOV 16...	12	<5	<3	<3.0	220	200	14	<5	<50	<50	16
FEB 02...	<5	7	<3	<3.0	390	330	<5	<5	<50	<50	10
MAR 01...	5	6	<3	<3.0	330	300	<5	<5	<50	<50	5.6
APR 11...	7	5	<3	<3.0	320	280	<5	<5	<50	<50	7.1
MAY 17...	6	<5	<3	<3.0	490	430	<5	<5	<50	<50	9.8
JUN 12...	10	7	<3	<3.0	210	180	11	<5	<50	<50	11
AUG 15...	<10	<10	<3	<3.0	310	280	6	<5	<50	<50	11
30...	5	5	<3	<3.0	140	140	<5	<5	<100	<100	11

05595730 RAYSE CREEK NEAR WALTONVILLE, IL

LOCATION.--Lat 38°15'14", long 89°02'23", in NE1/4NE1/4 sec.24, T.3 S., R.1 E., Jefferson County, Hydrologic Unit 07140106, at bridge on township road, 1.2 mi downstream from Knob Creek, 2.4 mi downstream from Novak Creek, 3.0 mi north of Waltonville, and at mile 6.7.

DRAINAGE AREA.--88.0 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1979 to current year. Gage-height record for Feb. 10, 1965, to Sept. 30, 1979, available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 412.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--10 years, 85.3 ft^3/s, 13.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,020 ft^3/s, Nov. 19, 1985, gage height, 16.50 ft; no flow at times in 1980, 1981, 1983-89.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 6	0830	1,650	12.03	Mar. 30	0400	2,280	13.18
Feb. 14	0300	1,890	12.50	Apr. 3	2315	*3,450	*14.84
Mar. 20	2045	2,170	13.00				

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.82	.17	5.1	26	18	12	632	2.3	4.0	1.1	.28	.60
2	21	.14	2.5	68	195	8.7	440	2.2	3.2	.64	.15	.65
3	9.2	.13	1.8	289	1100	9.1	2070	2.0	1.4	.52	.01	.38
4	.98	172	1.5	304	153	36	2680	1.8	.81	.44	.00	.25
5	.40	176	1.2	307	e35	261	633	2.0	460	.32	.00	.17
6	.19	39	1.2	1480	e20	95	93	2.2	95	.21	.00	.12
7	.09	13	1.2	622	e10	41	56	2.4	24	.18	.00	.06
8	.06	1.2	.87	270	e6.0	50	46	2.5	13	.12	.00	.02
9	.05	.72	.80	61	e4.5	153	37	2.1	6.3	.12	.00	.01
10	.03	1.1	.75	32	e3.5	426	27	2.5	3.9	.09	.00	.01
11	.03	10	.65	25	e4.0	354	22	3.5	2.6	.08	.00	.01
12	.03	8.3	.59	30	e5.0	106	18	2.4	2.7	.10	.00	.01
13	.02	3.1	.58	27	489	56	16	1.9	120	.09	.00	.00
14	.02	1.4	.61	19	1520	51	14	1.4	388	.07	.00	49
15	.01	1.2	.58	21	700	36	13	1.1	38	.08	.00	81
16	.01	175	.51	24	514	23	12	.93	19	.08	.00	12
17	.02	66	.39	19	118	18	9.9	.80	7.5	.08	.00	1.7
18	.04	13	.38	16	61	17	8.6	.85	19	.08	.00	.83
19	.06	51	.44	13	45	14	7.7	.89	110	.08	.00	.53
20	.09	540	.79	11	176	1030	7.3	23	21	.09	.01	.39
21	.08	244	1.0	7.0	455	1810	6.4	19	7.2	.13	34	.35
22	.06	34	1.0	6.3	103	280	5.7	4.2	2.7	.15	12	.27
23	.32	16	127	5.3	36	68	4.6	20	41	.12	1.9	.19
24	.26	8.6	41	4.9	22	42	4.5	19	114	.10	1.1	.11
25	.21	2.6	22	6.0	18	31	4.3	5.1	18	.07	.80	.09
26	.15	60	14	186	20	25	3.8	38	3.5	.03	.63	.06
27	.16	173	13	106	20	23	3.7	36	55	.02	.48	.04
28	.27	46	138	38	16	24	2.5	17	61	.00	.45	.03
29	.24	16	92	29	---	471	2.1	144	20	.01	3.8	.03
30	.22	9.7	57	26	---	1990	2.3	38	3.7	.01	1.5	.02
31	.19	---	35	21	---	1860	---	14	---	.01	.83	---
TOTAL	35.31	1882.36	563.44	4099.5	5867.0	9420.8	6882.4	413.07	1665.51	5.22	57.94	148.93
MEAN	1.14	62.7	18.2	132	210	304	229	13.3	55.5	.17	1.87	4.96
MAX	21	540	138	1480	1520	1990	2680	144	460	1.1	34	81
MIN	.01	.13	.38	4.9	3.5	8.7	2.1	.80	.81	.00	.00	.00
CFSM	.01	.71	.21	1.50	2.38	3.45	2.61	.15	.63	.00	.02	.06
IN.	.01	.80	.24	1.73	2.48	3.98	2.91	.17	.70	.00	.02	.06

CAL YR 1988 TOTAL 25121.45 MEAN 68.6 MAX 2360 MIN .00 CFSM .78 IN. 10.62
WTR YR 1989 TOTAL 31041.48 MEAN 85.0 MAX 2680 MIN .00 CFSM .97 IN. 13.12

e Estimated

05595730 RAYSE CREEK NEAR WALTONVILLE, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1980 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.61	.66	1.29	1.87	1.62	1.55	9.20	1.12	1.30	.99	.75	.80
2	1.23	.65	1.13	2.31	1.47	1.43	3.39	1.11	1.26	.90	.87	.85
3	1.47	.66	1.06	4.78	11.49	1.44	12.35	1.10	1.03	.84	.72	.76
4	.98	.74	1.01	7.23	4.23	1.82	14.75	1.08	.96	.83	.67	.72
5	.80	4.99	.96	2.86	2.45	6.35	8.94	1.08	9.05	.82	.64	.69
6	.68	2.30	.95	11.98	2.20	3.52	3.43	1.12	3.44	.76	.63	.66
7	.63	1.63	.96	9.83	1.74	2.08	2.68	1.14	1.88	.76	.60	.62
8	.61	.95	.89	6.71	1.53	2.28	2.40	1.17	1.63	.74	.59	.58
9	.61	.90	.87	2.78	1.42	3.61	2.25	1.12	1.33	.74	.58	.55
10	.59	.79	.88	2.03	1.26	6.65	1.95	1.14	1.21	.75	.56	.56
11	.57	1.46	.84	1.81	1.28	7.47	1.81	1.22	1.14	.72	.57	.55
12	.58	1.41	.82	1.89	1.27	3.71	1.71	1.19	1.12	.77	.54	.55
13	.57	1.19	.82	1.92	3.69	2.64	1.65	1.10	1.18	.72	.53	.54
14	.58	1.00	.83	1.65	12.18	2.57	1.59	1.06	7.48	.71	.53	1.04
15	.55	.97	.83	1.67	8.03	2.24	1.53	1.01	2.27	.75	.52	3.28
16	.56	4.22	.80	1.83	9.14	1.85	1.51	.99	1.78	.73	.55	1.62
17	.57	2.91	.77	1.65	3.88	1.71	1.45	.96	1.37	.74	.58	1.05
18	.58	1.56	.77	1.56	2.80	1.66	1.41	.96	1.23	.76	.57	.90
19	.61	1.66	.77	1.45	2.43	1.60	1.37	.95	3.34	.77	.56	.82
20	.62	7.86	.88	1.40	2.25	2.48	1.35	1.64	1.83	.78	.74	.77
21	.62	5.94	.94	1.27	8.66	12.45	1.34	1.87	1.38	.79	2.96	.76
22	.61	2.21	.93	1.24	3.71	5.81	1.32	1.25	1.15	.81	1.64	.74
23	.81	1.65	5.28	1.20	2.27	2.96	1.26	1.68	1.04	.78	1.07	.69
24	.72	1.45	2.32	1.18	2.01	2.37	1.26	1.85	2.98	.80	.95	.66
25	.71	1.14	1.85	1.19	1.78	2.08	1.26	1.34	1.78	.78	.89	.64
26	.65	1.10	1.61	3.82	1.76	1.91	1.22	1.20	1.21	.74	.83	.63
27	.64	4.84	1.37	3.77	1.78	1.82	1.24	2.27	1.08	.70	.79	.60
28	.72	2.55	4.21	2.20	1.70	1.88	1.16	1.63	2.22	.69	.77	.58
29	.70	1.69	3.09	1.90	---	1.76	1.10	4.02	1.77	.71	1.24	.58
30	.69	1.44	2.86	1.84	---	12.94	1.12	2.35	1.25	.71	1.01	.58
31	.68	---	2.30	1.73	---	12.60	---	1.74	---	.74	.89	---
MEAN	.70	2.08	1.45	2.92	3.57	3.78	2.97	1.40	2.06	.77	.82	.81
MAX	1.47	7.86	5.28	11.98	12.18	12.94	14.75	4.02	9.05	.99	2.96	3.28
MIN	.55	.65	.77	1.18	1.26	1.43	1.10	.95	.96	.69	.52	.54

05595730 RAYSE CREEK NEAR WALTONVILLE, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site MK 01.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)
OCT 18...	1300	17002	17002	0.03	340	6.70	15.0	24	4.9	27	K900	100
NOV 16...	1200	17002	17002	158	298	6.80	13.0	120	6.2	75	35000	84
FEB 02...	1200	17002	17002	13	1010	7.50	6.5	20	10.5	23	200	280
MAR 01...	1200	17002	17002	13	859	7.30	2.5	5.6	8.3	11	200	290
APR 11...	1200	17002	17002	21	697	7.20	8.0	26	10.1	12	K160	210
MAY 17...	1100	17002	17002	0.80	1270	7.80	20.0	14	9.8	23	K10	320
JUN 12...	1200	17002	17002	2.5	553	7.30	23.5	20	6.4	24	2000	160
AUG 15...	1200	17002	17002	0.0	488	7.20	23.0	10	4.3	30	<10	140
30...	1100	17002	17002	1.4	465	7.10	25.5	19	5.5	23	K1100	110

DATE	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)
OCT 18...	17	29	25	11	9.4	23	20	5.7	4.7	84	45
NOV 16...	84	29	20	13	8.3	15	12	8.9	5.4	<10	77
FEB 02...	170	67	61	33	30	75	67	4.8	4.1	104	250
MAR 01...	190	73	64	36	32	81	71	4.4	3.8	106	330
APR 11...	110	52	46	25	22	50	44	3.7	3.2	92	120
MAY 17...	150	84	76	36	32	130	120	5.2	4.4	173	200
JUN 12...	85	44	39	18	16	40	35	4.8	4.0	79	100
AUG 15...	21	40	37	12	11	30	28	9.6	8.3	117	75
30...	25	32	27	11	9.7	36	31	11	8.4	83	39

05595730 RAYSE CREEK NEAR WALTONVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
OCT											
18...	32	5	<0.100	<0.100	<0.001	--	1.1	--	0.160	0.020	860
NOV											
16...	520	70	0.450	0.140	<0.001	3.1	3.2	3.6	0.720	0.260	18000
FEB											
02...	32	5	0.620	0.100	<0.001	0.70	0.80	1.4	0.130	0.050	660
MAR											
01...	14	3	1.00	0.180	<0.001	0.42	0.60	1.6	0.052	0.030	280
APR											
11...	22	3	0.480	0.290	<0.001	0.11	0.40	0.88	0.100	0.040	1200
MAY											
17...	26	5	<0.100	<0.100	<0.003	--	0.80	--	0.060	0.030	1100
JUN											
12...	62	9	1.20	0.160	0.002	0.74	0.90	2.1	0.180	0.040	3400
AUG											
15...	20	3	<0.100	<0.100	<0.001	--	0.90	--	0.110	0.010	470
30...	26	4	0.240	0.380	0.003	0.72	1.1	1.3	0.100	0.020	780

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
OCT											
18...	<50	70	49	<0.5	<0.5	<50	<50	<3	<3	<5	<5
NOV											
16...	60	200	29	<0.5	<0.5	<50	<50	<3	<3	18	<5
FEB											
02...	90	90	75	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAR											
01...	100	80	66	<0.5	<0.5	<50	<50	<3	<3	8	7
APR											
11...	220	80	65	<0.5	<0.5	<50	<50	<3	<3	<5	<5
MAY											
17...	250	200	130	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JUN											
12...	950	100	72	<2.0	<2	<50	<50	<3	<3	7	6
AUG											
15...	80	90	77	<0.5	<0.5	<50	<50	<3	<3	<5	<5
30...	50	80	59	<0.5	<0.5	<50	<50	<3	<3	<5	<5

05595730 RAYSE CREEK NEAR WALTONVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
OCT											
18...	<5	<5	<5	<5	2200	94	<5	<5	740	570	<0.05
NOV											
16...	6	<5	10	<5	20000	84	18	5	920	220	0.12
FEB											
02...	<5	<5	<5	<5	1500	<50	<5	<5	320	280	0.06
MAR											
01...	5	<5	<5	<5	810	<50	<5	<5	380	340	<0.05
APR											
11...	<5	<5	<5	<5	1800	83	<5	<5	330	270	<0.05
MAY											
17...	<5	<5	<5	<5	1100	<50	<5	<5	1100	910	<0.05
JUN											
12...	<5	<5	6	<5	3500	<50	<5	<5	710	570	0.06
AUG											
15...	<5	<5	<5	<5	1300	<50	<5	<5	1200	1100	<0.05
30...	<5	<5	<5	<5	1500	51	<5	<5	1500	1200	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT											
18...	<5	<5	<3	<3.0	140	120	<10	<10	<50	<50	9.8
NOV											
16...	15	<5	<3	<3.0	120	75	30	<5	<100	<100	30
FEB											
02...	8	<5	<3	<3.0	410	370	<5	<5	<50	<50	9.5
MAR											
01...	6	--	<3	<3.0	410	360	<5	<5	<50	<50	6.1
APR											
11...	<5	<5	<3	<3.0	280	240	<5	<5	<50	<50	6.7
MAY											
17...	<5	<5	<3	<3.0	560	510	<5	<5	<50	<50	9.9
JUN											
12...	8	7	<3	<3.0	230	200	9	<5	<50	<50	12
AUG											
15...	<5	<5	<3	<3.0	210	190	<5	<5	<50	<50	13
30...	<5	<5	<3	<3.0	200	170	<5	<5	140	120	12

BIG MUDDY RIVER BASIN

05595765 BIG MUDDY SUBIMPOUNDMENT NEAR WALTONVILLE, IL

LOCATION.--Lat 38°10'34", long 89°00'22", in SE1/4NE1/4 sec.17, T.4 S., R.2 E., Jefferson County, Hydrologic Unit 07140106, on right bank at upstream side of subimpoundment dam, about 2.5 mi south of State Highway 148, 2.5 mi southeast of Waltonville, and about 10 mi upstream from Rend Lake Dam.

DRAINAGE AREA.--217 mi^2.

PERIOD OF RECORD.--November 1983 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 13.80 ft, Nov. 20, 1985; minimum, 4.28 ft, Feb. 25, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 13.23 ft, Apr. 4; minimum, 5.40 ft, Sept. 27, 29, 30.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.75	8.09	11.95	12.03	8.14	9.71	12.61	8.99	7.82	7.48	6.37	5.72
2	6.84	8.19	11.91	12.01	8.04	9.56	12.22	8.87	7.74	7.40	6.34	5.69
3	6.90	8.35	11.91	12.07	8.97	9.43	12.33	8.83	7.69	7.31	6.32	5.67
4	6.94	8.51	11.90	12.22	10.67	9.42	13.23	8.78	7.63	7.30	6.28	5.64
5	6.93	9.45	11.89	12.18	10.83	9.59	12.87	8.74	7.88	7.26	6.25	5.63
6	6.93	9.91	11.90	12.43	10.32	10.34	12.34	8.61	8.80	7.23	6.18	5.61
7	6.93	10.07	11.89	12.34	9.82	10.36	12.03	8.54	8.80	7.19	6.09	5.58
8	6.93	10.24	11.89	12.18	9.35	10.17	11.94	8.50	8.39	7.15	6.07	5.57
9	6.93	10.36	11.88	11.95	8.92	10.07	11.71	8.47	8.04	7.10	6.05	5.56
10	6.93	10.55	11.86	11.44	8.61	10.08	11.53	8.37	7.77	7.05	6.02	5.53
11	6.93	10.59	11.86	10.89	8.44	10.96	11.30	8.31	7.69	7.00	5.98	5.53
12	6.90	10.60	11.85	10.37	8.34	11.37	11.05	8.26	7.74	6.97	5.95	5.51
13	6.88	10.67	11.82	9.81	8.36	11.12	10.86	8.20	7.71	6.91	5.92	5.47
14	6.86	10.70	11.83	9.37	10.01	10.82	10.63	8.15	8.16	6.85	5.90	5.43
15	6.84	10.71	11.85	9.03	12.15	10.58	10.47	8.08	8.46	6.80	5.87	5.42
16	6.87	11.04	11.82	8.74	12.32	10.25	10.29	8.04	8.14	6.75	5.86	5.44
17	6.90	11.41	11.79	8.55	12.15	10.00	10.18	7.98	7.86	6.71	5.84	5.49
18	7.01	11.65	11.78	8.44	11.88	9.81	10.04	7.95	7.74	6.69	5.81	5.48
19	7.15	11.77	11.78	8.35	11.54	9.60	9.94	7.91	7.84	6.65	5.81	5.49
20	7.25	12.14	11.76	8.29	11.18	9.53	9.84	7.94	7.77	6.59	5.80	5.50
21	7.36	12.25	11.81	8.23	11.24	11.99	9.76	8.08	7.68	6.67	5.78	5.51
22	7.43	12.16	11.79	8.21	11.67	12.64	9.69	7.99	7.63	6.65	5.82	5.51
23	7.50	12.03	11.82	8.16	11.60	12.10	9.63	7.94	7.59	6.60	5.82	5.54
24	7.51	11.98	12.00	8.11	11.18	11.80	9.56	7.93	7.77	6.56	5.79	5.48
25	7.58	11.97	12.00	8.07	10.77	11.47	9.47	7.92	7.88	6.64	5.74	5.47
26	7.70	11.97	11.99	8.13	10.47	11.16	9.40	7.90	7.82	6.62	5.77	5.46
27	7.77	12.06	11.93	8.50	10.16	10.86	9.31	7.85	7.62	6.55	5.78	5.40
28	7.92	12.06	12.09	8.57	9.90	10.60	9.25	7.81	7.74	6.51	5.77	5.41
29	7.94	11.97	12.09	8.41	---	10.45	9.19	7.96	7.86	6.49	5.77	5.40
30	7.94	11.98	12.07	8.26	---	12.48	9.07	8.03	7.64	6.46	5.72	5.40
31	7.92	---	12.04	8.15	---	12.82	---	7.96	---	6.42	5.73	---
MEAN	7.20	10.85	11.90	9.79	10.25	10.68	10.72	8.22	7.90	6.86	5.94	5.52
MAX	7.94	12.25	12.09	12.43	12.32	12.82	13.23	8.99	8.80	7.48	6.37	5.72
MIN	6.75	8.09	11.76	8.07	8.04	9.42	9.07	7.81	7.59	6.42	5.72	5.40

05595820 CASEY FORK AT MT. VERNON, IL

LOCATION.--Lat 38°17'12", long 88°52'19", in NW1/4NW1/4 sec.9, T.3 S., R.3 E., Jefferson County, Hydrologic Unit 07140106, on left bank, 65 ft upstream from intersection of State Highway 142 and county highway 1100N, 0.2 mi downstream from Sevenmile Creek, about 2 mi southeast of Mt. Vernon, and at mile 18.8.

DRAINAGE AREA.--76.9 mi^2.

PERIOD OF RECORD.--October 1985 to current year. Gage-height record for April 1965 to May 1971 available in files of U.S. Army Corps of Engineers.

GAGE.--Water-stage recorder. Datum of gage is 420.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records good except those for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,560 ft^3/s, Nov. 19, 1985, gage height, 14.63 ft; maximum gage height, 14.65 ft, Feb. 1, 1988; minimum daily discharge, 0.15 ft^3/s, Sept. 29, 1989.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 4, 1968, reached a stage of 14.60 ft, from records of U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	0700	2,640	12.85	Mar. 30	0430	5,210	14.19
Mar. 20	2200	4,080	13.71	Apr. 4	0245	*5,970	*14.45

Minimum daily discharge, 0.15 ft^3/s, Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	6.5	15	53	29	24	508	4.7	24	9.0	3.3	11
2	11	6.6	13	46	180	22	425	4.4	43	6.7	3.2	5.9
3	7.5	6.4	12	60	1040	24	2580	4.9	21	7.7	2.9	3.5
4	5.6	75	11	151	130	198	4230	5.0	18	9.9	3.0	2.9
5	e5.0	186	10	265	e45	526	554	5.1	486	9.1	2.8	2.9
6	e4.0	34	9.9	106	e30	177	137	5.2	94	6.5	3.1	3.5
7	e3.5	17	10	1440	e20	93	93	4.6	46	6.1	3.0	3.4
8	e3.0	12	9.5	606	e15	87	85	4.0	29	4.6	2.9	2.7
9	e2.5	12	8.9	295	e10	153	61	14	21	4.1	3.1	4.0
10	e2.2	19	8.3	91	e9.0	285	45	10	16	4.1	3.0	4.7
11	e2.0	27	7.7	54	e10	239	37	8.4	13	9.1	3.1	3.2
12	e1.8	17	7.7	43	e17	115	35	6.6	27	6.7	3.2	3.1
13	e1.5	17	8.7	40	508	89	30	5.7	85	4.9	2.8	2.1
14	e1.2	15	10	32	1920	84	26	4.8	201	4.7	2.7	44
15	.86	14	9.5	41	596	59	25	4.8	48	3.9	4.7	12
16	2.4	232	9.5	35	470	42	22	4.4	30	3.5	5.5	6.4
17	1.7	54	8.4	28	141	37	20	4.1	20	3.5	3.1	4.3
18	3.6	18	8.4	25	92	36	18	4.0	27	3.6	2.6	e3.5
19	2.9	43	9.4	22	73	29	16	44	29	3.3	2.5	e3.0
20	3.2	446	11	19	169	1500	15	281	18	3.5	17	e2.5
21	4.2	181	11	16	365	2660	14	51	13	3.4	39	e2.2
22	3.0	43	12	15	108	245	13	73	9.9	3.1	6.8	e2.0
23	8.2	27	11	16	57	107	13	134	26	3.0	3.7	e1.5
24	4.3	20	41	16	40	76	12	48	77	5.6	6.4	e1.0
25	3.9	17	123	25	38	60	10	31	17	12	23	e.80
26	4.4	48	47	197	42	48	8.8	87	11	3.9	4.2	e.60
27	4.7	126	28	101	36	46	7.5	51	152	3.6	3.0	e.50
28	6.8	47	21	50	30	57	6.3	30	62	3.2	8.8	e.30
29	4.3	23	157	44	---	657	6.1	80	21	3.2	20	.15
30	3.9	18	151	43	---	3840	5.2	43	11	3.2	5.6	.54
31	5.3	---	81	34	---	2510	---	25	---	3.9	4.3	---
TOTAL	149.46	1807.5	880.9	4009	6220.0	14125	9057.9	1082.7	1695.9	162.6	202.3	138.19
MEAN	4.82	60.2	28.4	129	222	456	302	34.9	56.5	5.25	6.53	4.61
MAX	31	446	157	1440	1920	3840	4230	281	486	12	39	44
MIN	.86	6.4	7.7	15	9.0	22	5.2	4.0	9.9	3.0	2.5	.15
CFSM	.06	.78	.37	1.68	2.89	5.93	3.93	.45	.74	.07	.08	.06
IN.	.07	.87	.43	1.94	3.01	6.83	4.38	.52	.82	.08	.10	.07

CAL YR 1988 TOTAL 24059.76 MEAN 65.7 MAX 2230 MIN .86 CFSM .85 IN. 11.64
WTR YR 1989 TOTAL 39531.45 MEAN 108 MAX 4230 MIN .15 CFSM 1.41 IN. 19.12

e Estimated

BIG MUDDY RIVER BASIN

05595820 CASEY FORK AT MT. VERNON, IL--Continued

GAGE-HEIGHT RECORD

PERIOD OF RECORD.--October 1985 to current year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.09	2.06	1.94	3.15	2.36	2.26	8.28	1.58	1.93	1.53	1.22	1.27
2	1.87	2.07	1.84	2.87	2.20	2.19	4.51	1.58	2.65	1.46	1.25	1.42
3	1.69	2.09	1.80	2.95	11.51	2.24	12.72	1.55	1.99	1.47	1.25	1.29
4	1.54	2.16	1.76	4.19	4.28	5.34	14.12	1.55	1.87	1.59	1.24	1.23
5	1.67	6.67	1.76	6.83	2.93	9.63	8.55	1.61	10.05	1.52	1.23	1.23
6	1.68	2.83	1.74	3.53	2.78	5.02	4.46	1.61	3.65	1.42	1.27	1.21
7	1.66	2.13	1.76	11.39	2.41	3.46	3.73	1.57	2.72	1.37	1.22	1.23
8	1.68	1.89	1.74	9.73	2.26	3.56	3.65	1.53	2.31	1.35	1.23	1.21
9	1.64	1.86	1.72	6.77	2.10	4.04	3.26	1.59	2.01	1.34	1.24	1.22
10	1.65	2.26	1.69	3.71	2.05	6.26	2.93	1.69	1.85	1.31	1.24	1.37
11	1.65	2.66	1.66	3.01	2.09	5.99	2.75	1.62	1.74	1.30	1.24	1.26
12	1.71	2.03	1.66	2.71	2.13	4.13	2.62	1.52	2.38	1.41	1.25	1.24
13	1.63	2.18	1.69	2.79	4.18	3.52	2.52	1.47	2.93	1.35	1.23	1.23
14	1.40	1.98	1.79	2.32	12.85	3.63	2.40	1.44	6.18	1.35	1.21	3.69
15	1.37	1.97	1.75	2.64	7.75	3.21	2.39	1.41	2.77	1.29	1.21	1.61
16	1.54	7.74	1.75	2.53	9.06	2.75	2.33	1.42	2.30	1.28	1.38	1.46
17	1.49	3.34	1.72	2.32	4.50	2.61	2.21	1.38	2.01	1.23	1.24	1.32
18	1.84	2.20	1.74	2.22	3.72	2.62	2.16	1.35	1.86	1.27	1.22	1.29
19	1.73	2.78	1.79	2.15	3.40	2.40	2.08	1.36	2.29	1.26	1.20	1.26
20	1.77	7.38	1.84	2.06	3.14	3.86	2.03	6.65	1.91	1.27	1.38	1.23
21	1.82	5.06	1.84	1.98	8.09	13.33	2.00	2.89	1.74	1.28	1.39	1.21
22	1.74	2.77	1.87	1.92	4.05	5.54	1.98	2.22	1.59	1.26	1.49	1.22
23	2.51	2.33	1.84	1.92	2.82	3.98	2.02	4.90	1.53	1.26	1.24	1.21
24	1.87	2.11	1.89	1.92	2.43	3.42	1.91	2.79	3.24	1.25	1.32	1.20
25	1.86	1.96	4.15	2.00	2.42	3.14	1.85	2.32	1.90	1.66	2.32	1.22
26	1.89	2.00	2.84	5.25	2.76	2.90	1.81	2.65	1.63	1.31	1.32	1.23
27	1.90	4.48	2.41	3.91	2.61	2.72	1.75	2.86	5.71	1.29	1.24	1.39
28	2.14	2.90	2.18	2.91	2.45	3.10	1.67	2.21	3.32	1.28	1.22	1.26
29	1.88	2.20	3.95	2.69	---	2.97	1.65	3.35	2.05	1.25	1.99	1.29
30	1.84	2.02	4.98	2.69	---	14.01	1.64	2.66	1.67	1.27	1.35	1.53
31	1.95	---	3.71	2.47	---	13.10	---	2.13	---	1.24	1.30	---
MEAN	1.76	2.94	2.15	3.53	4.12	4.74	3.60	2.14	2.73	1.35	1.33	1.37
MAX	2.51	7.74	4.98	11.39	12.85	14.01	14.12	6.65	10.05	1.66	2.32	3.69
MIN	1.37	1.86	1.66	1.92	2.05	2.19	1.64	1.35	1.53	1.23	1.20	1.20

05595830 CASEY FORK AT ROUTE 37 NEAR MT. VERNON, IL

LOCATION.--Lat 38°16'10", long 88°53'55", in NE1/4NW1/4 sec.17, T.3 S., R.3 E., Jefferson County, Hydrologic Unit 07140106, at midstream on downstream side of bridge on State Highway 37, 1.0 mi upstream from right bank tributary, 3.2 mi downstream from Sevenmile Creek, 3.3 mi south of Mt. Vernon, and at mile 15.6.

DRAINAGE AREA.--87.7 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1958, 1962-77 are published in Water-Resources Investigations 78-24 and 79-25 as site NJ 07.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)
OCT											
18...	1100	17002	17002	3.6	645	7.10	16.0	8.3	5.0	26	--
NOV											
16...	0800	17002	17002	232	222	6.90	14.0	130	6.2	59	--
FEB											
02...	0800	17002	17002	180	723	7.70	8.0	22	10.1	18	--
MAR											
01...	0900	17002	17002	24	530	6.10	2.5	4.7	3.0	10	--
APR											
11...	0900	17002	17002	37	502	6.70	7.0	13	9.7	13	--
MAY											
17...	0800	17002	17002	4.1	908	7.50	17.5	11	6.0	24	--
JUN											
12...	0900	17002	17002	27	538	7.40	21.5	16	5.9	22	--
26...	1330	17002	17002	11	486	7.20	27.0	64	5.1	21	1.0
AUG											
30...	0800	17002	17002	5.6	392	7.70	24.5	45	3.8	29	--

DATE	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)
OCT											
18...	K130	130	45	--	39	35	11	10	72	66	9.4
NOV											
16...	K11000	66	66	--	24	17	9.0	5.8	11	9.9	6.0
FEB											
02...	K30	220	120	--	56	49	26	23	49	43	3.7
MAR											
01...	<10	210	130	<1.0	54	49	25	22	42	38	3.3
APR											
11...	K50	160	81	--	43	38	18	16	31	28	3.1
MAY											
17...	K50	200	56	--	60	54	18	15	92	83	9.6
JUN											
12...	8300	160	64	--	43	39	16	14	42	38	4.2
26...	2100	140	60	--	41	37	13	12	38	34	5.0
AUG											
30...	9200	99	21	--	31	26	9.7	8.2	29	26	8.3

05595830 CASEY FORK AT ROUTE 37 NEAR MT. VERNON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UNIONIZED (MG/L AS N) (00619)
OCT											
18...	8.4	84	100	66	0.6	341	8	1	6.90	<0.100	<0.001
NOV											
16...	3.7	<10	45	13	0.1	95	350	40	0.500	0.390	<0.001
FEB											
02...	3.2	93	220	43	0.3	434	15	2	1.10	<0.100	<0.001
MAR											
01...	2.9	83	190	39	0.2	388	12	3	1.30	<0.100	<0.001
APR											
11...	2.7	80	130	26	0.1	288	20	5	0.770	0.150	<0.001
MAY											
17...	8.5	141	160	88	0.7	499	45	6	3.20	0.190	0.002
JUN											
12...	4.6	91	100	38	0.3	294	77	7	1.70	0.220	0.003
26...	5.6	82	94	34	0.4	266	65	8	1.90	0.130	0.001
AUG											
30...	6.2	78	56	30	0.4	200	45	4	0.960	0.300	0.008

DATE	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)
OCT											
18...	--	1.5	8.4	0.250	0.190	250	<50	3	40	29	<0.5
NOV											
16...	1.8	2.2	2.7	0.920	0.210	12000	300	6	100	24	<0.5
FEB											
02...	--	0.94	2.0	0.210	0.140	330	80	1	50	43	<0.5
MAR											
01...	--	0.40	1.7	0.230	0.160	290	90	<1	40	35	<0.5
APR											
11...	0.25	0.40	1.2	0.230	0.150	750	150	<1	50	41	<0.5
MAY											
17...	1.4	1.6	4.8	0.190	0.110	1400	350	1	70	57	<0.5
JUN											
12...	0.68	0.90	2.6	0.458	0.300	3100	900	3	70	50	2.0
26...	0.97	1.1	3.0	0.360	0.210	2800	150	2	70	44	<1.0
AUG											
30...	1.0	1.3	2.3	0.320	0.150	1800	50	2	50	30	<0.5

05595830 CASEY FORK AT ROUTE 37 NEAR MT. VERNON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
OCT											
18...	<0.5	250	230	<3	<3	<5	<5	<5	<5	<5	<5
NOV											
16...	<0.5	<50	<50	<3	<3	16	<5	7	<5	12	<5
FEB											
02...	<0.5	110	100	<3	<3	<5	<5	<5	<5	<5	<5
MAR											
01...	<0.5	90	80	<3	<3	6	7	<5	6	<5	<5
APR											
11...	<0.5	90	80	<3	<3	<5	<5	<5	<5	<5	<5
MAY											
17...	<0.5	260	230	<3	<3	<5	<5	<5	<5	<5	<5
JUN											
12...	<2	130	110	<3	<3	9	<5	<5	<5	7	<5
26...	<0.5	140	130	<3	<3	<5	<5	<5	<5	<5	<5
AUG											
30...	<0.5	160	140	<3	<3	<5	<5	<5	<5	<5	<5

DATE	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)
OCT											
18...	450	68	<5	<5	99	71	<0.05	<5	<5	<3	<3.0
NOV											
16...	14000	360	21	<5	780	180	<0.05	14	<5	<3	<3.0
FEB											
02...	740	<50	<5	<5	260	220	<0.05	6	8	<3	<3.0
MAR											
01...	650	<50	<5	<5	350	300	<0.05	10	7	<3	<3.0
APR											
11...	1200	55	<5	<5	280	240	<0.05	<5	<5	<3	<3.0
MAY											
17...	1500	<50	<5	<5	510	430	<0.05	<5	<5	<3	<3.0
JUN											
12...	3000	<50	<5	<5	400	260	0.07	15	8	<3	<3.0
26...	3300	82	<5	<5	280	150	<0.05	<5	<5	<3	<3.0
AUG											
30...	2300	67	<5	<5	390	270	<0.05	<5	<5	<3	<3.0

05595830 CASEY FORK AT ROUTE 37 NEAR MT. VERNON, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR) (01082)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)
OCT										
18...	130	120	<10	<5	<100	<100	11	<0.005	<5	<1
NOV										
16...	90	59	23	<5	<100	<100	23	<0.005	10	<1
FEB										
02...	220	190	<5	<5	<50	<50	7.0	<0.005	<5	<1
MAR										
01...	200	180	<5	<5	<50	<50	5.8	0.005	<5	1
APR										
11...	170	150	<5	<5	<100	<100	6.6	<0.005	<5	1
MAY										
17...	210	190	<5	<5	<50	<50	10	<0.005	10	<1
JUN										
12...	160	150	9	<5	<100	<100	8.9	0.005	<5	<1
26...	150	140	<5	<5	<50	<50	10	0.005	<5	--
AUG										
30...	110	92	<5	<5	150	110	13	<0.005	<5	--

05595860 CASEY FORK SUBIMPOUNDMENT NEAR BONNIE, IL

LOCATION.--Lat 38°11'15", long 88°55'38", in SW1/4SW1/4 sec.7, T.4 S., R.3 E., Jefferson County, Hydrologic Unit 07140106, on left bank at upstream side of subimpoundment dam, about 1 mi upstream from Atchison Creek, about 2 mi southwest of Bonnie, and about 12 mi upstream from Rend Lake Dam.

DRAINAGE AREA.--133 mi^2.

PERIOD OF RECORD.--November 1983 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 12.89 ft, Mar. 30, 1985; minimum, 4.52 ft, Feb. 26, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 12.77 ft, Apr. 4; minimum, 5.53 ft, Sept. 13.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
OBSERVATION AT 08:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.17	9.70	12.05	12.13	8.29	10.37	12.46	9.04	7.88	7.52	6.40	5.86
2	7.32	9.85	12.02	12.12	8.17	10.14	12.20	8.96	7.81	7.43	6.38	5.73
3	7.52	10.01	12.02	12.17	9.05	9.95	12.35	8.88	7.75	7.34	6.37	5.70
4	7.56	10.21	12.01	12.26	10.77	9.91	12.77	8.79	7.71	7.33	6.40	5.68
5	7.60	10.77	12.00	12.20	10.81	10.60	12.72	8.79	7.94	7.29	6.33	5.68
6	---	11.15	12.01	12.41	10.50	11.54	12.38	8.68	9.00	7.26	6.24	5.66
7	7.60	11.24	12.02	12.36	10.17	11.57	12.13	8.58	8.99	7.22	6.12	5.66
8	7.60	11.27	12.01	12.17	9.83	11.41	12.08	8.52	8.68	7.19	6.10	5.66
9	7.70	11.28	11.99	12.04	9.46	11.26	11.97	8.52	8.38	7.17	6.09	5.66
10	7.70	11.37	11.98	11.72	9.14	11.27	11.85	8.43	8.07	7.13	6.05	5.63
11	7.70	11.38	11.97	11.41	8.87	11.50	11.69	8.35	7.86	7.09	6.01	5.59
12	7.69	11.43	11.97	11.08	8.64	11.59	11.49	8.29	7.82	7.03	5.99	5.55
13	7.71	11.51	11.97	10.71	8.64	11.45	11.34	8.23	7.80	6.98	5.97	5.53
14	7.72	11.54	11.98	10.37	10.35	11.27	11.14	8.19	8.13	6.88	5.95	5.57
15	7.73	11.58	11.98	10.05	12.31	11.11	10.98	8.12	8.50	6.84	5.93	5.61
16	7.78	11.88	11.96	9.75	12.30	10.89	10.79	8.06	8.31	6.79	5.91	5.57
17	7.80	12.20	11.97	9.45	12.12	10.67	10.63	8.02	8.07	6.75	5.89	5.57
18	7.99	12.12	11.96	9.17	11.94	10.47	10.45	7.95	7.89	6.71	5.85	5.54
19	8.23	12.13	11.96	8.90	11.75	10.24	10.29	7.91	7.87	6.76	5.82	5.54
20	8.44	12.25	11.91	8.67	11.55	10.12	10.14	8.01	7.80	6.65	5.91	5.57
21	8.66	12.31	11.99	8.45	11.71	12.08	10.00	8.34	7.73	6.79	5.96	5.57
22	8.72	12.16	11.98	8.31	11.98	12.49	9.87	8.20	7.68	6.70	5.95	5.57
23	8.79	12.10	12.02	8.22	11.79	12.13	9.77	8.16	7.64	6.64	5.89	5.59
24	8.80	12.08	12.12	8.16	11.53	11.97	9.66	8.19	7.81	6.60	5.87	5.57
25	8.99	12.07	12.11	8.10	11.26	11.79	9.56	8.09	7.86	6.78	5.86	5.55
26	9.16	12.09	12.09	8.24	11.05	11.61	9.49	8.08	7.68	6.84	5.87	5.55
27	9.32	12.16	12.05	8.73	10.82	11.41	9.40	7.99	7.63	6.67	5.84	5.56
28	9.50	12.15	12.21	8.79	10.60	11.22	9.31	7.91	7.97	6.59	5.83	5.55
29	9.55	12.07	12.22	8.65	---	11.12	9.26	8.02	7.90	6.50	5.85	5.55
30	9.56	12.07	12.16	8.49	---	12.65	9.14	8.02	7.69	6.51	5.81	5.57
31	9.55	---	12.13	8.38	---	12.66	---	7.98	---	6.46	5.78	---
MEAN	---	11.54	12.03	10.12	10.55	11.24	10.91	8.30	7.99	6.92	6.01	5.61
MAX	---	12.31	12.22	12.41	12.31	12.66	12.77	9.04	9.00	7.52	6.40	5.86
MIN	---	9.70	11.91	8.10	8.17	9.91	9.14	7.91	7.63	6.46	5.78	5.53

05595950 REND LAKE NEAR BENTON, IL

LOCATION.--Lat 38°02'30", long 88°57'30", in NW1/4 sec.2, T.6 S., R.2 E., Franklin County, Hydrologic Unit 07140106, at dam on Big Muddy River, 3 mi (5 km) northwest of Benton and at mile 103.9.

DRAINAGE AREA.--488 mi^2.

PERIOD OF RECORD.--February 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by a rolled-earth embankment, a main spillway of the broad-crested weir type, and an auxiliary spillway for floods of rare occurrence. Gates closed Oct. 24, 1970. Gained full pool, elevation 395 ft, on Feb. 24, 1971.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 355,670 acre-ft, May 3, 1983, elevation, 413.09 ft; minimum observed, 32,370 acre-ft, Feb. 21, 1972, elevation, 392.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 345,999 acre-ft, Apr. 5, elevation, 412.69 ft; minimum observed, 182,267 acre-ft, Oct. 4, elevation, 405.00 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	405.60	193,707	-
Oct. 31	405.08	183,754	-9,953
Nov. 30	406.11	202,996	+19,242
Dec. 31	406.24	205,538	+2,542
CAL YR 1988	-	-	-29,104
Jan. 31	408.03	241,455	+35,917
Feb. 28	409.60	275,022	+33,567
Mar. 31	412.08	331,355	+56,333
Apr. 30	409.09	263,902	-67,453
May 31	407.90	238,780	-25,122
June 30	407.57	232,040	-6,740
July 31	406.51	210,819	-21,221
Aug. 31	405.73	195,830	-14,989
Sept. 30	405.28	187,468	-8,362
WTR YR 1989	-	-	-6,239

05597000 BIG MUDDY RIVER AT PLUMFIELD, IL

LOCATION.--Lat 37°54'05", long 89°00'50", in NW1/4 sec.20, T.7 S., R.2 E., Franklin County, Hydrologic Unit 07140106, on left bank 0.8 mi upstream from bridge on State Highway 149 at Plumfield, 1.9 mi downstream from Middle Fork Muddy River and at mile 86.6.

DRAINAGE AREA.--794 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1910 and December 1910 to December 1912 (published as "near Cambon"), August 1914 to current year.

REVISED RECORDS.--WSP 700: 1929. WSP 805: 1935. WSP 1508: 1908-10, 1920-21(M), 1928(M), 1932(M). WDR IL-75-1: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 353.24 ft above National Geodetic Vertical Datum of 1929. June 16, 1908, to Dec. 31, 1912, nonrecording gage at site 1.7 mi upstream at different datum. Aug. 14, 1914, to July 12, 1932, nonrecording gage at site 0.2 mi downstream at different datum. July 13, 1932, to Nov. 12, 1938, nonrecording gage at bridge 0.8 mi downstream at datum 0.86 ft higher. Nov. 13, 1938, to Sept. 30, 1974, water-stage recorder at present site at datum 5.0 ft higher. Since Oct. 1, 1974, auxiliary water-stage recorder at pumping plant at Zeigler, 4 mi downstream, at datum 353.24 ft above NGVD. Feb. 14, 1937, to Sept. 30, 1974, auxiliary nonrecording gage at same site at datum 5.0 ft higher.

REMARKS.--Water-discharge records good except those for estimated daily discharges, which are poor. Flow regulated since October 1970 by Rend Lake (station 05595950), 18.6 mi upstream from gage.

AVERAGE DISCHARGE.--58 years (water years 1909, 1912, 1915-70), 699 ft^3/s, 11.96 in/yr, prior to construction of Rend Lake. 19 years, 723 ft^3/s, since construction of Rend Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,900 ft^3/s, May 10, 1061; maximum gage height, 29.67 ft, datum then in use, May 10, 1961; no flow at times in 1908-9, 1914, 1936, 1940-41.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,530 ft^3/s, Apr. 6, gage height, 27.70 ft; minimum daily, 43 ft^3/s, Nov. 2, 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	45	586	768	1010	1370	6830	836	640	437	199	131
2	191	43	480	766	935	1240	7270	807	569	422	193	110
3	117	43	319	854	1440	1140	7130	780	508	421	232	100
4	97	84	237	887	1780	1320	7070	752	479	418	219	99
5	88	394	203	893	2230	1800	7210	733	569	405	182	94
6	81	391	179	1300	e2500	2460	7490	715	705	394	169	84
7	78	318	166	1640	e2200	3200	7430	697	729	385	166	81
8	77	297	159	2460	e1800	3190	7110	675	687	370	150	82
9	75	292	152	3070	e1500	2850	6660	667	602	354	136	76
10	72	259	139	3360	e1200	2540	6120	674	530	349	129	75
11	70	203	136	3180	e1100	2300	5510	668	491	331	123	81
12	70	131	130	2780	890	2110	4860	641	511	323	118	80
13	67	137	125	2360	1100	1980	4220	614	539	328	117	83
14	62	134	126	1960	1820	1850	3630	593	723	357	112	88
15	56	112	127	1650	2920	1690	3120	578	814	383	107	100
16	53	410	135	1400	4010	1510	2680	563	803	332	105	89
17	56	487	115	1220	4300	1330	2310	545	759	290	106	101
18	55	367	113	1080	4150	1210	2000	528	737	273	102	90
19	60	552	103	944	3760	1120	1740	516	1000	259	98	81
20	57	918	95	830	3350	1080	1540	511	1140	266	93	75
21	55	1060	94	750	3040	1190	1370	511	943	368	94	70
22	52	1040	101	692	2800	1300	1240	517	766	306	102	68
23	73	1020	100	652	2610	1450	1140	549	602	285	99	69
24	104	980	110	627	2440	1690	1050	535	538	257	98	69
25	72	879	123	627	2250	1770	989	515	493	251	110	59
26	63	735	120	855	2000	1710	940	602	460	251	134	57
27	56	776	142	1040	1750	1600	900	663	449	238	189	57
28	54	725	711	1130	1540	1510	881	630	454	230	212	54
29	58	671	864	1190	---	1550	906	609	478	222	184	52
30	52	622	845	1210	---	2340	864	667	459	212	134	53
31	49	---	807	1150	---	4780	---	675	---	209	141	---
TOTAL	2288	14125	7842	43325	62425	58180	112210	19566	19177	9926	4353	2408
MEAN	73.8	471	253	1398	2229	1877	3740	631	639	320	140	80.3
MAX	191	1060	864	3360	4300	4780	7490	836	1140	437	232	131
MIN	49	43	94	627	890	1080	864	511	449	209	93	52

CAL YR 1988 TOTAL 207991 MEAN 568 MAX 3610 MIN 35
WTR YR 1989 TOTAL 355825 MEAN 975 MAX 7490 MIN 43

e Estimated

05597000 BIG MUDDY RIVER AT PLUMFIELD, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH (STANDARD UNITS) (00400)	TEMPERATURE WATER (DEG C) (00010)	TURBIDITY (NTU) (00076)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L) (00335)	COLIFORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
OCT											
18...	0800	17002	17002	54	470	7.20	17.0	2.2	7.1	25	K110
NOV											
14...	0800	17002	17002	139	523	7.20	9.0	32	8.1	29	K170
JAN											
11...	0800	17002	17002	3240	225	7.80	3.5	140	9.6	30	350
FEB											
09...	0800	17002	17002	1500	373	7.70	0.5	28	12.1	22	K90
MAR											
30...	0800	17002	17002	2200	318	6.80	13.0	55	--	31	6800
APR											
26...	0800	17002	17002	948	359	7.70	18.0	58	7.8	24	K20
JUN											
06...	0800	17002	17002	697	572	7.10	21.5	44	5.8	23	K700
AUG											
15...	0800	17002	17002	107	368	7.40	25.0	19	7.6	19	K20
SEP											
28...	0800	17002	17002	55	392	7.30	15.5	2.0	7.8	19	K30

DATE	HARDNESS TOTAL (MG/L AS CACO3) (00900)	HARDNESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOVERABLE (MG/L AS CA) (00916)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG) (00927)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOVERABLE (MG/L AS NA) (00929)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, TOTAL RECOVERABLE (MG/L AS K) (00937)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ALKALINITY LAB (MG/L AS CACO3) (90410)
OCT											
18...	130	65	32	32	12	12	44	--	4.4	4.6	64
NOV											
14...	160	110	41	39	14	14	44	42	5.9	5.6	45
JAN											
11...	51	52	17	13	6.5	4.6	13	11	3.1	2.0	<10
FEB											
09...	89	46	25	22	9.3	8.2	28	25	2.9	2.4	43
MAR											
30...	69	45	21	18	7.4	5.9	23	20	3.8	2.6	24
APR											
26...	90	45	24	22	9.2	8.4	28	26	4.2	3.9	45
JUN											
06...	100	60	31	27	10	8.6	62	55	3.9	3.8	43
AUG											
15...	82	31	23	21	8.0	7.2	32	29	3.5	3.5	51
SEP											
28...	93	29	45	23	11	8.6	8.7	--	7.7	3.0	64

05597000 BIG MUDDY RIVER AT PLUMFIELD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)
OCT											
18...	75	67	7	0.340	<0.100	<0.001	0.180	0.070	1100	<50	60
NOV											
14...	110	56	7	0.370	0.200	<0.001	0.340	0.110	1100	<50	50
JAN											
11...	46	104	10	0.360	0.150	0.001	0.310	0.060	6400	50	70
FEB											
09...	82	10	3	0.200	<0.100	<0.001	0.130	0.040	610	<50	20
MAR											
30...	60	97	11	0.240	0.110	<0.001	0.220	0.070	4700	60	60
APR											
26...	72	50	4	0.250	0.190	0.003	0.080	0.020	970	60	50
JUN											
06...	95	117	11	1.20	0.160	<0.001	0.270	0.080	3200	640	80
AUG											
15...	58	61	8	0.170	<0.100	<0.001	0.140	--	970	<50	60
SEP											
28...	57	74	10	0.380	0.520	0.003	0.168	0.110	70	<50	100

DATE	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
OCT											
18...	45	<0.5	<0.5	50	--	<3	<3	<5	<5	<5	<5
NOV											
14...	34	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
JAN											
11...	21	<0.5	<0.5	<50	<50	<3	<3	10	<5	6	<5
FEB											
09...	8	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
MAR											
30...	29	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
APR											
26...	32	<0.5	<0.5	<50	<50	--	--	<5	<5	<5	<5
JUN											
06...	44	2.0	<2	<50	<50	<3	<3	<5	<5	<5	<5
AUG											
15...	27	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
SEP											
28...	38	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5

05597000 BIG MUDDY RIVER AT PLUMFIELD, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
OCT 18...	<5	<5	1700	<50	<5	<5	540	240	<0.05	<5
NOV 14...	<5	<5	1800	88	6	<5	590	490	<0.05	<5
JAN 11...	7	<5	7300	60	8	<5	280	56	<0.05	13
FEB 09...	<5	<5	780	<50	<5	<5	220	68	<0.05	<5
MAR 30...	<5	<5	5000	<50	<5	<5	370	160	<0.05	<5
APR 26...	<5	<5	1300	<50	<5	<5	550	360	<0.05	<5
JUN 06...	7	<5	3700	<50	<5	<5	660	210	<0.05	<5
AUG 15...	<5	<5	1300	<50	<5	<5	530	130	<0.05	<5
SEP 28...	<5	<5	<50	<50	<5	<5	360	170	<0.05	<5

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
OCT 18...	<5	<3	<3.0	160	--	5	<5	<50	<50	9.6
NOV 14...	<5	<3	<3.0	170	160	<5	<5	<100	<100	12
JAN 11...	<5	<3	<3.0	80	56	16	<5	<50	<50	13
FEB 09...	<5	<3	<3.0	120	100	<5	<5	<50	<50	8.3
MAR 30...	<5	<3	<3.0	110	93	8	<5	<50	<50	12
APR 26...	<5	<3	<3.0	120	110	<5	<5	<50	<50	7.5
JUN 06...	<5	<3	<3.0	190	170	8	<5	<50	<50	8.5
AUG 15 ..	<5	<3	<5.0	120	110	<5	<5	<50	<50	10
SEP 28...	<5	<3	<3.0	100	--	<5	<5	<50	<50	7.9

05597500 CRAB ORCHARD CREEK NEAR MARION, IL

LOCATION.--Lat 37°43'52", long 88°53'21", in SW1/4SW1/4 sec.16, T.9 S., R.3 E., Williamson County, Hydrologic Unit 07140106, on right bank at downstream side of bridge on State Highway 13, 1.8 mi downstream from Buckley Creek, 2 mi east of Marion, and at mile 32.9.

DRAINAGE AREA.--31.7 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1388: 1952-54. WDR-IL 75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 415.82 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1965, nonrecording gage and crest-stage gage at bridge 800 ft downstream and Aug. 25, 1965, to Oct. 28, 1965, nonrecording gage at present site and datum.

REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--38 years, 26.3 ft^3/s, 11.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,570 ft^3/s, Apr. 30, 1983, gage height, 12.66 ft, from rating curve extended above 1,600 ft^3/s; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 14	0045	1,080	11.18	Mar. 5	Unknown	800	Unknown
Feb. 21	1000	1,100	11.20	Mar. 31	Unknown	*1,590	*11.64

No flow for several days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.11	4.9	49	15	e9.0	e300	1.9	.44	.71	.15	.04
2	.22	.08	4.7	107	137	8.0	e70	1.2	.36	.88	.14	.04
3	.05	.07	4.2	103	317	e7.0	e120	.76	.33	1.5	.12	.03
4	.02	80	2.3	51	160	e10	e70	.74	.38	2.6	.07	.03
5	.01	176	1.6	68	e35	e600	e45	2.1	80	6.4	.04	.03
6	.01	35	1.1	388	e18	e300	33	1.6	e20	1.8	.02	.03
7	.01	9.0	1.0	160	e12	e100	e22	1.4	e10	.66	.01	.03
8	.00	4.2	.70	112	e9.0	e50	e35	.75	e7.0	.53	.00	.02
9	.00	1.9	.54	37	e7.0	e30	e25	2.4	e5.0	.43	.00	.03
10	.03	3.0	.53	20	e6.0	e20	e20	3.6	e3.5	.31	.00	.45
11	.01	2.5	.73	15	e5.5	e15	e13	1.4	e3.0	.23	.00	.30
12	.00	2.1	.56	29	e5.0	e12	e11	.73	e20	1.4	.00	.06
13	.00	2.7	.51	26	360	e10	e9.0	.38	e80	6.5	.00	.04
14	.00	1.9	.67	32	768	e9.0	e7.0	.36	e50	.85	.00	2.2
15	.00	2.0	.51	74	569	e40	e6.0	.48	13	.39	.00	.31
16	.00	1.4	.25	35	338	e20	e5.0	.70	2.9	.21	.00	.04
17	.01	1.1	.25	19	126	e15	e4.5	.71	.82	.10	.00	.06
18	.01	.95	.26	14	48	e10	4.4	.77	.54	.07	.00	.06
19	.01	120	.28	10	32	e7.0	4.5	1.0	1.2	.07	.01	.04
20	.01	339	.31	7.2	108	e8.0	3.6	1.2	.95	.10	.02	.04
21	.01	140	.32	5.1	903	e30	3.4	1.3	.50	.23	.03	.03
22	.01	22	.28	4.1	e150	e17	3.1	1.4	.31	.35	.07	.03
23	.02	9.2	.45	3.7	e60	e10	2.5	3.9	.24	.36	.10	.02
24	.05	5.2	1.2	3.3	e30	e8.0	2.5	2.6	.24	.32	.06	.02
25	.05	3.0	1.7	13	e20	e7.0	3.3	1.9	.14	.24	.08	.02
26	.04	86	1.7	247	e15	e6.5	2.9	3.7	.08	.19	.19	.02
27	.04	222	11	222	e12	e6.0	1.4	3.6	.15	.14	.16	.02
28	.55	50	287	47	e10	e5.5	1.1	1.1	.44	.10	.11	.02
29	.69	19	141	38	---	e10	5.2	.71	1.0	.07	.11	.02
30	.30	11	42	37	---	e250	3.2	.60	.87	.08	.08	.40
31	.16	---	32	21	---	e1100	---	.53	---	.12	.05	---
TOTAL	2.42	1350.41	544.55	1997.4	4275.5	2730.0	836.6	45.52	303.39	27.94	1.62	4.48
MEAN	.078	45.0	17.6	64.4	153	88.1	27.9	1.47	10.1	.90	.052	.15
MAX	.69	339	287	388	903	1100	300	3.9	80	6.5	.19	2.2
MIN	.00	.07	.25	3.3	5.0	5.5	1.1	.36	.08	.07	.00	.02
CFSM	.00	1.42	.55	2.03	4.82	2.78	.88	.05	.32	.03	.00	.00
IN.	.00	1.58	.64	2.34	5.02	3.20	.98	.05	.36	.03	.00	.01

CAL YR 1988 TOTAL 5863.01 MEAN 16.0 MAX 473 MIN .00 CFSM .51 IN. 6.88
WTR YR 1989 TOTAL 12119.83 MEAN 33.2 MAX 1100 MIN .00 CFSM 1.05 IN. 14.22

e Estimated

05597500 CRAB ORCHARD CREEK NEAR MARION, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site ND 04.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)
NOV 09...	0900	17002	17002	1.9	607	7.10	9.5	19	6.6	30	K80
DEC 12...	0900	17002	17002	0.59	1200	7.30	0.5	8.6	10.4	10	K20
FEB 01...	0900	17002	17002	14	710	8.10	8.0	18	9.7	19	K110
MAR 02...	0900	17002	17002	8.3	845	7.00	3.5	7.2	7.7	10	K60
APR 06...	0900	17002	17002	32	538	6.80	9.5	21	8.9	20	K70
MAY 22...	0900	17002	17002	1.1	1890	7.00	20.0	2.3	5.0	12	K20
JUN 14...	0900	17002	17002	52	655	7.00	19.0	17	11.2	31	K11000
JUL 18...	1000	17002	17002	0.09	1180	7.30	23.0	7.3	5.0	26	K50
AUG 23...	0900	17002	17002	0.10	2020	6.90	24.5	6.2	5.1	24	K50

DATE	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY LAB (MG/L AS CACO3) (90410)
NOV 09...	240	190	66	61	23	21	26	24	6.0	5.3	45
DEC 12...	510	420	140	130	44	43	59	57	5.9	5.5	84
FEB 01...	250	190	65	63	24	23	39	38	3.2	2.9	63
MAR 02...	360	290	100	93	36	32	47	43	3.1	2.7	75
APR 06...	190	130	55	49	19	16	24	21	2.9	2.6	57
MAY 22...	990	880	290	260	87	80	79	73	3.7	3.4	111
JUN 14...	180	130	55	49	17	14	26	23	4.2	3.2	51
JUL 18...	490	390	150	130	45	38	48	41	5.0	3.8	98
AUG 23...	900	790	320	250	83	67	74	59	5.8	4.2	116

05597500 CRAB ORCHARD CREEK NEAR MARION, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	RESIDUE VOLA- TILE, SUS- PENDED (MG/L) (00535)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN- IONIZED (MG/L AS N) (00619)	PHOS- PHOROUS TOTAL (MG/L AS P) (00665)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P) (00666)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)
NOV 09...	250	13	3	<0.100	<0.100	<0.001	0.140	0.110	1700	<50	40
DEC 12...	540	3	1	0.130	0.180	<0.001	0.040	<0.010	190	<50	50
FEB 01...	270	17	3	2.80	<0.100	<0.002	0.070	0.020	550	80	40
MAR 02...	390	7	2	0.340	<0.100	<0.001	0.050	0.010	330	90	40
APR 06...	190	38	5	0.180	0.180	<0.001	0.100	0.020	1300	180	50
MAY 22...	1000	20	3	0.210	0.140	<0.001	0.031	0.010	790	260	90
JUN 14...	170	108	14	1.90	0.300	0.001	0.150	0.040	4900	740	70
JUL 18...	540	20	4	<0.100	<0.100	<0.001	0.070	0.010	900	90	70
AUG 23...	1900	20	6	<0.100	<0.100	<0.001	0.060	0.010	410	<50	90

DATE	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV- ERABLE (UG/L AS B) (01022)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV 09...	32	<0.5	<0.5	50	50	<3	<3	<5	<5	<5	<5
DEC 12...	43	<0.5	<0.5	60	60	<3	<3	<5	<5	<5	<5
FEB 01...	40	<0.5	<0.5	<50	<50	<3	<3	<5	5	5	7
MAR 02...	34	<0.5	<0.5	<50	<50	<3	<3	7	6	7	6
APR 06...	35	<0.5	<0.5	<50	<50	<3	<3	<5	<5	<5	<5
MAY 22...	83	<0.5	<0.5	110	100	<3	<3	<10	<10	<5	<5
JUN 14...	41	<0.5	<0.5	<50	<50	<3	<3	7	<5	<5	<5
JUL 18...	50	<0.5	<0.5	60	50	<3	<3	5	<5	<5	<5
AUG 23...	66	<0.5	<0.5	80	60	<3	<3	<5	<5	6	<5

05597500 CRAB ORCHARD CREEK NEAR MARION, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)
NOV 09...	<5	<5	2000	150	<5	<5	430	440	<0.05	<5
DEC 12...	<5	<5	730	<50	7	<5	1600	1600	<0.05	<5
FEB 01...	<5	<5	1000	63	<5	<5	820	770	<0.05	13
MAR 02...	<5	<5	820	<50	<5	<5	1100	960	<0.05	12
APR 06...	<5	<5	2100	120	<5	<5	750	650	<0.05	10
MAY 22...	<10	<5	820	--	<5	<5	3000	2800	<0.05	<10
JUN 14...	7	<5	5500	82	<5	<5	810	590	<0.05	10
JUL 18...	<5	<5	1400	<50	<5	<5	1600	860	<0.05	5
AUG 23...	5	<5	1000	<50	<5	<5	2300	1800	<0.05	33

DATE	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 09...	<5	<3	<3.0	180	170	5	<5	<50	<50	13
DEC 12...	<5	<3	<3.0	350	340	<5	<5	<50	<50	8.1
FEB 01...	14	<3	<5.0	210	200	<5	<5	<50	<50	9.6
MAR 02...	9	<3	<3.0	270	250	<5	<5	<50	<50	5.5
APR 06...	5	<3	<3.0	170	150	<5	<5	<50	<50	11
MAY 22...	<5	<3	<3.0	620	570	<5	<5	<50	<50	6.2
JUN 14...	6	<3	<3.0	150	140	11	<5	<100	<100	13
JUL 18...	7	<3	<3.0	340	300	<5	<5	<50	<50	10
AUG 23...	--	<5	<5.0	620	500	7	<5	<50	<50	9.8

05598050 CRAB ORCHARD CREEK BELOW CRAB ORCHARD LAKE NEAR CARTERVILLE, IL

LOCATION.--Lat 37°42'51", long 89°09'04", in NW1/4 sec.30, T.9 S., R.1 E., Williamson County, Hydrologic Unit 07140106, at bridge on country road, 0.2 mi downstream from Crab Orchard Lake, 1.8 mi upstream from Durry Creek, 5.2 mi southwest of Carterville, and at mile 16.0.

DRAINAGE AREA.--201 mi^2.

PERIOD OF RECORD.--Water years 1978 to current year. Additional chemical data for water years 1972-77 are published in Water-Resources Investigations 78-24 and 79-25 as site ND 02.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L) (00335)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV												
10...	1300	17002	17002	--	333	8.20	13.0	6.3	10.3	21	K20	110
DEC												
01...	0900	17002	17002	--	325	7.70	8.0	6.9	11.8	18	K50	100
JAN												
09...	0900	17002	17002	--	338	7.70	4.0	4.4	13.0	18	K20	99
MAR												
06...	1000	17002	17002	--	228	6.80	3.5	20	9.0	22	K10	64
APR												
24...	0900	17002	17002	114	233	7.70	18.0	11	9.1	15	<10	73
JUN												
05...	0900	17002	17002	130	270	7.10	20.5	23	6.4	35	K10000	83
21...	1100	17002	17002	--	248	8.00	25.0	0.70	8.0	14	K40	83
AUG												
23...	0800	17002	17002	--	545	6.70	25.0	2.5	3.1	10	<10	220
SEP												
14...	0900	17002	17002	320	264	7.70	23.5	6.0	7.6	22	<10	85

DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
NOV											
10...	44	30	27	12	11	24	22	2.6	2.3	69	72
DEC											
01...	32	29	25	12	9.6	23	19	2.7	2.2	70	73
JAN											
09...	36	26	24	10	9.5	20	19	2.1	1.9	63	76
MAR											
06...	26	18	16	6.6	5.9	11	9.7	2.0	1.7	38	57
APR											
24...	5	20	18	7.6	6.7	11	9.8	2.8	2.3	68	69
JUN											
05...	43	23	20	9.0	7.9	9.2	8.2	4.1	3.8	40	69
21...	34	22	21	7.9	7.5	12	11	2.4	2.0	50	55
AUG											
23...	110	55	54	21	20	24	23	3.4	3.0	104	160
SEP											
14...	23	23	21	8.7	8.0	13	12	4.1	3.8	63	51

05598050 CRAB ORCHARD CREEK BELOW CRAB ORCHARD LAKE NEAR CARTERVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
NOV											
10...	20	6	0.110	0.150	0.006	0.75	0.90	1.0	0.063	0.020	170
DEC											
01...	6	5	0.150	0.140	0.001	0.76	0.90	1.0	0.040	<0.010	430
JAN											
09...	8	4	0.130	<0.100	<0.001	--	0.90	1.0	0.040	<0.010	160
MAR											
06...	15	4	0.320	<0.100	<0.001	--	1.1	1.4	0.090	0.010	940
APR											
24...	10	4	<0.100	0.200	0.004	0.61	0.81	--	0.040	0.010	370
JUN											
05...	32	8	0.300	1.00	0.005	1.6	2.6	2.9	0.270	0.120	1600
21...	6	1	<0.100	0.130	0.007	0.47	0.60	--	0.050	0.020	430
AUG											
23...	6	2	<0.100	<0.100	<0.001	--	0.20	--	0.020	0.010	110
SEP											
14...	14	5	0.240	<0.100	<0.003	--	1.1	1.3	0.080	0.020	250

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
NOV											
10...	<50	50	39	<0.5	<0.5	<50	<50	<3	<3	<5	<5
DEC											
01...	<50	50	37	<0.5	<0.5	<50	<50	<3	<3	<5	<5
JAN											
09...	<50	50	41	<0.5	<0.5	<50	<50	<3	<3	<5	5
MAR											
06...	110	30	22	<0.5	<0.5	<50	<50	<3	<3	<5	<5
APR											
24...	<50	30	19	<0.5	<0.5	<50	<50	--	--	<5	<5
JUN											
05...	740	50	34	<2.0	<2	<50	<50	<3	<3	<5	<5
21...	350	30	27	<0.5	<0.5	<50	<50	<3	<3	<5	<5
AUG											
23...	<50	90	81	<0.5	<0.5	<50	<50	<3	<3	<5	<5
SEP											
14...	50	50	24	<0.5	<0.5	<50	<50	<3	<3	<5	<5

05598050 CRAB ORCHARD CREEK BELOW CRAB ORCHARD LAKE NEAR CARTERVILLE, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)
NOV											
10...	<5	<5	<5	<5	430	<50	<5	<5	280	29	<0.05
DEC											
01...	<5	<5	<5	<5	700	<50	<5	<5	310	46	<0.05
JAN											
09...	<5	<5	<5	<5	300	<50	<5	<5	120	<5	<0.05
MAR											
06...	<5	<5	<5	6	1300	94	<5	<5	170	24	<0.05
APR											
24...	<5	<5	<5	<5	530	<50	<5	<5	160	18	<0.05
JUN											
05...	<5	<5	<5	<5	1700	110	<5	<5	450	300	<0.05
21...	<5	<5	<5	<5	140	82	<5	<5	120	<5	<0.05
AUG											
23...	<5	<5	<5	<5	300	<50	<5	<5	2600	2600	<0.05
SEP											
14...	<5	<5	<5	<5	380	<50	<5	<5	290	18	<0.05

DATE	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, TOTAL (UG/L AS V) (01087)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV											
10...	<5	<5	<3	<3.0	100	90	<5	<5	<50	<50	7.7
DEC											
01...	<5	<5	<3	<3.0	110	86	<5	<5	<50	<50	8.1
JAN											
09...	<5	<5	<5	<5.0	100	93	<5	<5	<50	<50	7.2
MAR											
06...	<5	<5	<3	<3.0	60	53	<5	<5	<50	<50	7.9
APR											
24...	<5	<5	<3	<3.0	70	59	<5	<5	<50	<50	6.5
JUN											
05...	6	<5	<3	<3.0	80	73	<5	<5	<50	<50	13
21...	<5	<5	<3	<3.0	80	72	<5	<5	<50	<50	6.4
AUG											
23...	48	48	<3	<3.0	210	210	<5	<5	<50	<50	4.8
SEP											
14...	<5	<5	<5	5.0	80	72	6	<5	<50	<50	7.2

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL
(National stream-quality accounting network station)

LOCATION.--Lat 37°44'55", long 89°20'45", in SE1/4 sec.8, T.9 S., R.2 W., Jackson County, Hydrologic Unit 07140106, on left bank just upstream from Lewis Creek, 0.2 mi upstream from South Twentieth Street Bridge, at Murphysboro, and at mile 36.0.

DRAINAGE AREA.--2,169 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1916 to current year (fragmentary prior to 1931).
REVISED RECORDS.--WDR IL-79-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 335.5 ft above National Geodetic Vertical Datum of 1929. Prior to June 20, 1931, nonrecording gage at South Twentieth Street Bridge, 1,300 ft downstream, at datum 5 ft lower. June 20, 1931, to July 11, 1933, nonrecording gage at upstream side of Illinois Central Railroad bridge across mouth of Lewis Creek at present datum. Since Nov. 14, 1973, auxiliary water-stage recorder 7,700 ft upstream. Oct. 6, 1931, to Nov. 13, 1973, auxiliary nonrecording gage read twice daily at same site.
REMARKS.--Water-discharge records fair except those for estimated daily discharges, which are poor. Flow regulated since October 1970 by Rend Lake (station 05595950), 67.8 mi upstream from gage. National Weather Service gage-height telemeter at station.
AVERAGE DISCHARGE.--40 years (water years 1931-70), 1,788 ft^3/s, 11.23 in/yr, prior to construction of Rend Lake. 19 years, 2,017 ft^3/s, since construction of Rend Lake.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,300 ft^3/s, May 11, 1961; maximum gage height, 37.97 ft, May 12, 1961; maximum daily reverse flow, 4,400 ft^3/s, June 3, 1947, caused by backwater from Mississippi River; no flow Aug. 13 to Sept. 1, 1936, unaffected by backwater.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 2, 1916, reached a stage of 34.9 ft, present datum, discharge, 28,000 ft^3/s.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,900 ft^3/s, Apr. 4; maximum gage height, 30.93 ft, Apr. 4; minimum discharge, 89 ft^3/s, Oct. 19, 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266	133	2100	e2300	e2000	4060	11200	1430	1410	705	325	e230
2	820	119	1750	e2000	e1800	3680	14600	1340	1230	809	320	e220
3	1170	107	1440	e1800	e2000	3010	17100	1260	1030	e820	305	e210
4	1030	150	1130	e1900	e3000	3080	18200	1210	848	e750	300	e200
5	634	e500	822	e2200	e4000	4110	18100	1190	1390	e700	315	e190
6	463	e1200	649	e3500	e5000	4850	18000	1130	2240	e650	300	e190
7	312	e1400	541	e5000	e5500	5140	18200	1110	2840	e600	265	e220
8	232	e1300	547	e6500	5110	5320	17500	1060	2860	e550	245	468
9	187	e1100	515	e7500	e4500	5560	15900	1090	2420	e500	230	e600
10	153	916	483	e8000	e4000	5860	13700	1100	1920	472	210	e500
11	141	789	460	7620	e3500	6100	12300	1100	1470	458	193	e400
12	134	714	436	5950	e3200	6120	11100	1060	2000	450	186	500
13	128	e650	412	e5000	e3500	6060	10200	986	2680	445	e180	e700
14	121	e600	378	e4500	5570	5560	9440	905	3810	468	e175	e900
15	114	551	364	e4000	e7500	4800	8400	864	4030	508	e170	e1000
16	108	1360	362	e3300	e9000	4430	7350	838	3850	517	e165	e950
17	106	2120	364	e2800	10500	4040	6570	790	3400	486	e165	e900
18	101	2310	344	e2500	11300	3470	5860	713	2980	436	e160	e700
19	91	2390	333	e2100	11700	3030	4820	691	4000	422	e160	e600
20	92	3390	329	e1800	10700	2640	4180	666	4130	422	e155	e500
21	96	4170	329	e1600	10100	2940	3620	640	3910	499	151	e450
22	99	4250	320	e1500	9390	3620	3000	794	3360	500	151	422
23	121	4380	335	e1400	8380	4300	2440	1020	2700	479	151	e380
24	197	4000	361	e1400	7270	4960	2140	1210	2170	476	295	e400
25	450	3220	523	1310	6540	5370	1900	1440	1860	427	205	e450
26	406	2850	654	e1400	6090	5260	1700	1480	1410	436	158	e500
27	302	3050	e900	e1800	5330	4650	1540	1750	1090	450	154	e500
28	225	3280	e1500	e2500	4540	4100	1440	1680	847	404	260	e480
29	189	3140	e2500	e2700	---	3710	1540	1430	738	370	270	468
30	158	2480	e3000	2810	---	4740	1570	1200	699	350	e250	e450
31	139	---	e2800	e2700	---	7750	---	1280	---	335	e240	---
TOTAL	8785	56619	26983	101390	171020	142320	263610	34457	69322	15894	6809	14678
MEAN	283	1887	870	3271	6108	4591	8787	1112	2311	513	220	489
MAX	1170	4380	3000	8000	11700	7750	18200	1750	4130	820	325	1000
MIN	91	107	320	1310	1800	2640	1440	640	699	335	151	190

CAL YR 1988 TOTAL 599042 MEAN 1637 MAX 12700 MIN 67
WTR YR 1989 TOTAL 911887 MEAN 2498 MAX 18200 MIN 91

e Estimated

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected at bridge on State Highway 127 at Murphysboro, 1.5 mi upstream from discharge station.

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: May 1980 to current year.

REMARKS.--Suspended-sediment samples are collected by a local observer once weekly with additional samples collected during high runoff periods.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,700 mg/L, Feb. 28, 1987; minimum daily mean, 3 mg/L, Jan. 16, 1981.
SEDIMENT LOADS: Maximum daily, 20,500 tons, May 3, 1983; minimum daily, 0.62 ton, Jan. 16, 1981.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,230 mg/L, Mar. 30; minimum daily mean, 18 mg/L, Dec. 21.
SEDIMENT LOADS: Maximum daily, 17,100 tons, Jan. 8; minimum daily, 11 tons, Oct. 20.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SAM-PLING DEPTH (FEET) (00003)	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)
OCT												
13...	1000	17002	17002	128	--	--	915	7.60	13.5	3.9	8.7	23
13...	1030	81700	17002	128	--	--	914	7.40	13.0	3.6	9.0	22
NOV												
15...	1030	81700	80020	549	--	--	788	7.30	10.5	82	7.5	--
15...	1045	81700	17002	549	--	--	788	7.30	10.5	39	7.5	32
JAN												
11...	1030	81700	80020	6950	--	--	273	6.70	4.0	140	10.1	--
11...	1045	81700	17002	6950	--	--	273	6.70	4.0	110	10.1	28
FEB												
23...	1100	81700	80020	8440	--	--	366	6.60	3.0	47	11.2	--
23...	1115	81700	17002	8440	--	--	366	6.60	3.0	55	11.2	20
APR												
11...	1100	81700	80020	11600	--	--	310	6.70	10.5	29	7.2	--
11...	1115	81700	17002	11600	--	--	310	6.70	10.5	26	7.2	20
11...	1315	81700	80020	12800	--	--	310	6.70	10.5	--	7.2	--
MAY												
16...	0930	17002	17002	810	--	--	780	6.60	19.0	38	6.6	22
16...	0945	81700	17002	810	--	--	762	6.70	19.0	11	6.4	20
24...	0945	81700	80020	--	--	--	995	7.00	21.0	--	5.7	--
JUL												
10...	1115	81700	80020	470	--	--	738	7.50	30.0	22	7.0	--
10...	1116	81700	81700	--	1.00	102	732	7.40	30.0	--	7.1	--
10...	1117	81700	81700	--	1.00	82.0	735	7.50	30.0	--	7.1	--
10...	1118	81700	81700	--	1.00	62.0	740	7.50	30.0	--	7.0	--
10...	1119	81700	81700	--	1.00	42.0	740	7.40	30.0	--	6.9	--
10...	1120	81700	81700	--	1.00	22.0	741	7.60	30.0	--	6.9	--
10...	1130	81700	17002	470	--	--	738	7.50	30.0	4.3	7.0	21
AUG												
29...	1000	81700	80020	262	--	--	1010	7.20	29.0	24	5.1	19
29...	1030	17002	17002	262	--	--	1010	7.00	29.0	14	5.6	19

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	ACIDITY TOTAL HEATED (MG/L AS CACO3) (70508)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
OCT												
13...	220	--	--	270	160	--	67	64	28	26	91	87
13...	210	--	--	280	170	--	66	66	27	27	88	88
NOV												
15...	320	280	K300	260	180	--	--	64	--	25	--	65
15...	320	--	--	260	190	--	67	63	27	25	69	66
JAN												
11...	320	440	7500	92	52	--	--	23	--	8.3	--	15
11...	320	--	--	91	91	<1.0	25	23	9.3	8.2	16	15
FEB												
23...	K110	K39	330	120	76	--	--	31	--	11	--	21
23...	K110	--	--	120	78	--	32	31	11	10	23	22
APR												
11...	K17	K44	K44	100	56	--	--	25	--	9.0	--	19
11...	K17	--	--	95	60	--	25	24	8.7	8.4	19	19
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
16...	K60	--	--	230	160	--	57	56	23	22	73	72
16...	K59	--	--	220	140	--	57	53	23	21	73	69
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
10...	K50	K50	K44	230	140	--	--	55	--	22	--	60
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	K50	--	--	240	160	--	59	59	23	23	62	62
AUG												
29...	K22	K22	K32	350	280	--	92	88	34	31	75	72
29...	<10	--	--	340	270	--	92	83	34	31	76	70

DATE	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	ALKA- LINITY WAT WH TOT FET FIELD MG/L AS CACO3 (00410)	ALKA- LINITY LAB (MG/L AS CACO3) (90410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT												
13...	6.4	6.1	--	--	--	--	104	300	42	0.3	--	--
13...	6.3	6.2	--	--	--	--	105	300	43	0.3	--	--
NOV												
15...	--	7.2	0	103	84	--	85	270	32	--	0.20	7.9
15...	8.1	7.2	--	--	--	--	76	280	34	0.2	--	--
JAN												
11...	--	4.8	0	35	32	--	40	72	11	--	0.20	6.1
11...	3.3	2.8	--	--	--	--	<10	77	12	0.1	--	--
FEB												
23...	--	3.7	0	57	47	--	47	100	12	--	0.20	6.1
23...	3.1	2.8	--	--	--	--	41	110	12	0.1	--	--
APR												
11...	--	3.6	0	46	38	--	44	68	17	--	0.10	2.7
11...	3.6	2.5	--	--	--	--	35	71	17	0.1	--	--
11...	--	--	--	--	--	38	--	--	--	--	--	--
MAY												
16...	4.5	4.3	--	--	--	--	75	250	44	0.1	--	--
16...	4.5	4.0	--	--	--	--	76	260	44	0.2	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
10...	--	4.7	0	73	60	--	86	230	33	--	0.30	2.3
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	4.3	4.7	--	--	--	--	87	240	37	0.3	--	--
AUG												
29...	5.2	5.8	0	63	52	--	64	400	37	0.3	0.30	3.8
29...	5.1	4.6	--	--	--	--	65	400	40	0.3	--	--

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUS-PENDED (MG/L) (00530)	RESIDUE VOLA-TILE, SUS-PENDED (MG/L) (00535)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
OCT												
13...	--	592	37	5	0.590	--	<0.100	<0.001	--	--	1.0	1.6
13...	--	598	33	7	0.580	--	<0.100	<0.001	--	--	1.1	1.7
NOV												
15...	543	526	--	--	--	0.570	0.180	--	0.140	1.2	1.4	--
15...	--	522	15	6	0.580	--	0.160	<0.001	--	1.1	1.3	1.9
JAN												
11...	171	167	--	--	--	0.450	0.160	--	0.070	0.54	0.70	--
11...	--	139	106	13	0.480	--	<0.100	<0.001	--	--	1.4	1.9
FEB												
23...	236	217	--	--	--	0.600	0.280	--	0.280	0.72	1.0	--
23...	--	218	40	5	1.20	--	0.250	<0.001	--	1.0	1.3	2.5
APR												
11...	183	172	--	--	--	0.210	0.040	--	0.020	0.96	1.0	--
11...	--	163	38	6	0.190	--	<0.100	<0.001	--	--	1.3	1.5
11...	--	--	--	--	--	0.220	--	--	--	--	--	--
MAY												
16...	--	495	85	10	0.380	--	0.300	<0.001	--	0.50	0.80	1.2
16...	--	498	79	9	0.360	--	0.170	<0.001	--	0.63	0.80	1.2
24...	--	--	--	--	--	1.00	--	--	--	--	--	--
JUL												
10...	490	459	--	--	--	<0.100	0.040	--	0.040	1.1	1.1	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	476	105	15	<0.100	--	<0.100	<0.003	--	--	1.4	--
AUG												
29...	696	681	54	7	0.230	0.240	0.210	0.003	0.160	0.79	1.0	1.2
29...	--	668	57	7	0.220	--	0.190	0.002	--	0.81	1.0	1.2

DATE	PHOS-PHOROUS TOTAL (MG/L AS P) (00665)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P) (00666)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)
OCT												
13...	0.230	0.120	800	<50	1	--	60	47	<0.5	<0.5	120	120
13...	0.240	0.110	960	<50	1	--	60	52	<0.5	<0.5	120	120
NOV												
15...	0.330	0.120	--	60	--	1	--	47	--	<0.5	--	--
15...	0.310	0.140	4000	130	3	--	80	46	<0.5	<0.5	110	100
JAN												
11...	0.240	0.100	--	--	--	--	--	--	--	--	--	--
11...	0.330	0.100	4700	330	1	--	70	31	<0.5	<0.5	<50	<50
FEB												
23...	0.190	0.080	--	150	--	<1	--	33	--	<0.5	--	--
23...	0.170	0.070	1400	220	1	--	40	28	<0.5	<0.5	<50	<50
APR												
11...	0.080	0.040	--	90	--	<1	--	33	--	<0.5	--	--
11...	0.120	0.040	1500	170	2	--	40	33	<0.5	<0.5	<50	<50
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
16...	0.120	0.030	1900	100	2	--	70	54	<0.5	<0.5	100	--
16...	0.181	0.050	2000	90	2	--	70	50	<0.5	<0.5	90	80
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
10...	0.190	0.060	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--	--
10...	0.130	0.050	1700	70	1	--	80	59	<0.5	<0.5	70	70
AUG												
29...	0.142	0.060	1300	30	2	1	100	120	<0.5	<0.5	120	110
29...	0.150	0.050	1300	70	2	--	100	110	<0.5	<0.5	130	130

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)
OCT											
13...	<3	<3	<5	<5	<5	<5	<5	<5	1200	<50	<5
13...	<3	<3	<5	<5	<5	<5	<5	<5	1400	<50	<5
NOV											
15...	--	<1	--	<1	--	<3	--	3	--	130	--
15...	<3	<3	6	<5	<5	<5	7	<5	5200	140	<5
JAN											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	<3	<3	<5	<5	<5	<5	9	<5	6000	380	20
FEB											
23...	--	<1	--	<1	--	<3	--	6	--	210	--
23...	<3	<3	<5	<5	<5	<5	17	5	1800	210	9
APR											
11...	--	<1	--	7	--	<3	--	4	--	97	--
11...	<3	<3	6	<5	<5	<5	12	6	1700	140	<5
11...	--	--	--	--	--	--	--	--	--	--	--
MAY											
16...	<3	<3	<5	<5	<5	<5	<5	<5	2600	<50	<5
16...	<3	<3	<5	<5	<5	<5	<5	<5	2700	<50	<5
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<3	<3	<5	<5	<5	<5	<5	<5	2100	<50	<5
AUG											
29...	<3	<1	<5	<1	<5	<3	<5	<3	1900	<16	<5
29...	<3	<3	<5	<5	<5	<5	<5	<5	1900	<50	10

DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) (71900)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)
OCT											
13...	<5	580	450	<0.05	--	<5	<5	--	<3	<3.0	430
13...	<5	710	460	--	--	<5	<5	--	<3	<3.0	420
NOV											
15...	<5	--	510	--	<0.1	--	10	<1	--	<1.0	--
15...	<5	720	540	--	--	11	8	--	<3	<3.0	390
JAN											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	<5	290	100	--	--	<5	<5	--	<3	<3.0	110
FEB											
23...	<5	--	63	--	<0.1	--	3	<1	--	<1.0	--
23...	<5	130	65	--	--	6	6	--	<3	<3.0	160
APR											
11...	<5	--	25	--	<0.1	--	3	<1	--	2.0	--
11...	<5	110	24	--	--	7	<5	--	<3	<5.0	110
11...	--	--	--	--	--	--	--	--	--	--	--
MAY											
16...	<5	700	540	<0.05	--	<5	<5	--	<3	<3.0	360
16...	<5	700	520	--	--	8	<5	--	<3	<3.0	360
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	<5	450	140	--	--	<5	<5	--	<3	<3.0	350
AUG											
29...	<5	2900	2600	--	<0.1	<10	<4	<1	<3	<1.0	460
29...	<5	2900	2500	<0.05	--	<10	<10	--	<3	<3.0	460

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

WATER QUALTY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	STRONTIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	SEDIMENT, SUS-PENDED (MG/L) (80154)	SEDIMENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT											
13...	410	<5	<5	<50	<50	<0.005	<5	1	--	--	--
13...	420	<5	<5	<100	<100	<0.005	<5	--	70	24	100
NOV											
15...	370	--	<6	--	13	--	--	--	--	--	--
15...	360	10	<5	<50	<50	<0.005	5	1	243	360	94
JAN											
11...	--	--	--	--	--	--	--	--	--	--	--
11...	99	8	<5	<100	<100	<0.005	5	2	172	3230	99
FEB											
23...	140	--	<6	--	24	--	--	--	62	1410	97
23...	150	<5	<5	<50	<50	<0.005	<5	1	--	--	--
APR											
11...	110	--	<6	--	13	--	--	--	65	2040	99
11...	110	<5	<5	<50	<50	<0.005	<5	2	--	--	--
11...	--	--	--	--	--	--	--	--	--	--	--
MAY											
16...	350	5	<5	<50	<50	<0.005	<5	7	--	--	--
16...	340	6	<5	<50	<50	<0.005	<5	1	101	221	94
24...	--	--	--	--	--	--	--	--	--	--	--
JUL											
10...	--	--	--	--	--	--	--	--	68	86	100
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
10...	350	<5	<5	<50	<50	0.005	<5	--	--	--	--
AUG											
29...	450	7	<6	120	<11	<0.005	<5	--	86	61	99
29...	420	7	<5	<50	<50	<0.005	<5	--	--	--	--

BIG MUDDY RIVER BASIN

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	266	93	67	133	157	56	2100	140	794
2	820	218	483	119	155	50	1750	85	402
3	1170	165	521	107	152	44	1440	61	237
4	1030	141	367	150	149	60	1130	57	163
5	634	126	237	e500	300	406	822	54	116
6	463	118	143	e1200	327	1060	649	50	89
7	312	108	91	e1400	356	1350	541	47	75
8	232	98	61	e1300	360	1260	547	44	64
9	187	86	43	e1100	235	698	515	41	57
10	153	76	31	916	170	420	483	38	50
11	141	76	29	789	160	341	460	36	44
12	134	62	22	714	155	299	438	33	39
13	128	50	17	e650	145	254	412	31	35
14	121	50	16	e600	140	227	378	29	30
15	114	50	15	551	124	184	364	27	27
16	108	50	15	1360	750	2750	362	25	25
17	106	48	14	2120	480	2750	364	24	23
18	101	48	13	2310	315	1960	344	22	21
19	91	48	12	2390	220	1420	333	21	19
20	92	45	11	3390	160	1460	329	19	17
21	96	45	12	4170	120	1350	329	18	16
22	99	45	12	4250	115	1320	320	22	19
23	121	48	16	4380	110	1300	335	28	25
24	197	163	87	4000	100	1080	361	36	35
25	450	336	408	3220	95	826	523	301	425
26	406	200	219	2850	90	700	654	110	194
27	302	180	147	3050	200	1650	e900	140	340
28	225	175	106	3280	525	4650	e1500	1070	4330
29	189	167	85	3140	415	3520	e2500	400	2700
30	158	163	70	2480	240	1610	e3000	245	1980
31	139	160	60	---	---	---	e2800	190	1440
TOTAL	8785	---	3430	56619	---	35055	26983	---	13831

e Estimated

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	e2300	180	1120	e2000	90	486	4060	45	459
2	e2000	175	945	e1800	165	802	3680	40	342
3	e1800	170	826	e2000	777	4200	3010	40	287
4	e1900	200	1030	e3000	390	3160	3080	240	2000
5	e2200	367	2180	e4000	240	2590	4110	980	10900
6	e3500	280	2650	e5000	150	2020	4850	390	5110
7	e5000	253	3420	e5500	100	1480	5140	240	3330
8	e6500	975	17100	5110	145	2000	5320	190	2730
9	e7500	360	7290	e4500	145	1760	5560	165	2480
10	e8000	235	5080	e4000	110	1190	5860	110	1740
11	7620	215	4420	e3500	85	803	6100	86	1420
12	5950	206	3310	e3200	70	605	6120	84	1390
13	e5000	202	2730	e3500	340	3210	6060	95	1550
14	e4500	195	2370	5570	650	9770	5560	98	1470
15	e4000	180	1940	e7500	265	5360	4800	90	1170
16	e3300	155	1380	e9000	220	5340	4430	78	933
17	e2800	135	1020	10500	208	5900	4040	51	461
18	e2500	88	594	11300	168	5120	3470	47	440
19	e2100	55	314	11700	130	3830	3030	44	360
20	e1800	49	239	10700	97	2830	2640	42	299
21	e1600	46	199	10100	76	2070	2940	280	2220
22	e1500	43	174	9390	82	2070	3620	590	5770
23	e1400	40	151	8380	93	2170	4300	340	3950
24	e1400	37	140	7270	68	1460	4960	320	4280
25	1310	50	177	6540	54	1030	5370	155	2250
26	e1400	854	3230	6090	52	851	5260	110	1560
27	e1800	425	2070	5330	50	707	4650	80	1000
28	e2500	280	1890	4540	47	562	4100	63	697
29	e2700	210	1530	---	---	---	3710	105	1050
30	2810	155	1180	---	---	---	4740	1230	15700
31	e2700	120	875	---	---	---	7750	370	7740
TOTAL	101390	---	71574	171020	---	73376	142320	---	85088

e Estimated

05599500 BIG MUDDY RIVER AT MRUPHYSBORO, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	11200	235	7100	1430	108	387	1410	460	1750
2	14600	145	5720	1340	110	372	1230	280	930
3	17100	105	4850	1260	113	359	1030	215	598
4	18200	82	3510	1210	116	353	848	185	424
5	18100	68	2900	1190	119	355	1390	470	1760
6	18000	64	2680	1130	122	353	2240	200	1210
7	18200	61	2610	1110	124	348	2840	190	1460
8	17500	60	2500	1060	126	342	2860	305	2360
9	15900	57	2250	1090	128	358	2420	230	1500
10	13700	46	1670	1100	130	368	1920	220	1140
11	12300	40	1330	1100	132	368	1470	200	794
12	11100	41	1230	1060	131	353	2000	1060	5720
13	10200	38	1050	986	120	299	2680	690	4990
14	9440	37	941	905	109	255	3810	450	4630
15	8400	36	821	864	98	221	4030	300	3260
16	7350	36	718	838	95	205	3850	280	2910
17	6570	38	670	790	94	200	3400	260	2390
18	5860	41	626	713	92	177	2980	320	2580
19	4820	46	583	691	90	168	4000	820	8860
20	4180	56	593	666	88	158	4130	300	3340
21	3620	69	608	640	86	149	3910	260	2740
22	3000	84	607	794	280	600	3360	250	2270
23	2440	88	527	1020	270	744	2700	250	1820
24	2140	90	458	1210	250	817	2170	261	1100
25	1900	93	411	1440	180	700	1860	242	881
26	1700	95	384	1480	690	2760	1410	229	669
27	1540	97	365	1750	510	2410	1090	216	502
28	1440	100	356	1680	265	1200	847	204	390
29	1540	102	384	1430	215	830	738	193	326
30	1570	105	398	1200	185	599	699	184	300
31	---	---	---	1280	215	743	---	---	---
TOTAL	263610	---	48850	34457	---	17551	69322	---	63604

05599500 BIG MUDDY RIVER AT MURPHYSBORO, IL--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	705	180	300	325	55	48	e230	82	51
2	809	176	355	320	55	47	e220	80	48
3	e820	172	381	305	56	46	e210	78	44
4	e750	168	341	300	57	45	e200	76	41
5	e700	165	311	315	60	51	e190	74	38
6	e650	161	283	300	63	51	e190	75	38
7	e600	155	251	265	67	47	e220	275	163
8	e550	126	188	245	71	46	468	220	278
9	e500	98	132	230	75	46	e600	145	235
10	472	78	95	210	79	46	e500	110	148
11	458	88	108	193	83	44	e400	80	86
12	450	105	127	186	83	43	500	145	196
13	445	130	156	e180	83	40	e700	475	898
14	468	210	265	e175	83	39	e900	275	668
15	508	180	247	e170	84	38	e1000	230	621
16	517	130	182	e165	84	37	e950	200	513
17	486	110	144	e165	84	37	e900	180	437
18	436	100	118	e160	84	36	e700	160	302
19	422	90	102	e160	84	36	e600	140	227
20	422	85	97	e155	84	35	e500	120	162
21	499	160	216	151	85	35	e450	90	109
22	500	170	230	151	85	35	422	85	97
23	479	130	168	151	85	35	e380	82	84
24	476	110	141	295	85	69	e400	80	86
25	427	100	115	205	85	49	e450	100	122
26	436	95	112	158	85	37	e500	90	122
27	450	85	103	154	86	36	e500	80	108
28	404	60	65	260	86	62	e480	70	91
29	370	53	53	270	86	63	468	68	86
30	350	54	51	e250	85	58	e450	65	79
31	335	54	49	e240	85	55	---	---	---
TOTAL	15894	---	5486	6809	---	1392	14678	---	6178
YEAR	911887		425415						

e Estimated

MISSISSIPPI RIVER MAIN STEM

07010000 MISSISSIPPI RIVER AT ST. LOUIS, MO

LOCATION.--Lat 38°37'44", long 90°10'47", St. Louis County, Hydrologic Unit 07140101, on downstream side of west pier of Eads Bridge at St. Louis, 15 mi downstream from Missouri River, 19.2 mi upstream from Meramec River, and at mile 180.0 above the Ohio River.

DRAINAGE AREA.--697,000 mi^2, approximately.

PERIOD OF RECORD.--Discharge: January 1861 to current year. Monthly discharge only for some periods, published in WSP 1311.

Gage heights: March 1933 to current year in reports of Geological Survey. Since January 1861 in reports of Mississippi River Commission. Since January 1890 in reports of National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 379.94 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1934, nonrecording gage 0.4 mi downstream and May 5, 1934, to Dec. 9, 1952, water-stage recorder at site 20 ft downstream at present datum.

REMARKS.--No estimated daily discahrges. Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in the Missouri River basin. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--128 years, 179,800 ft^3/s, 130,300,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,019,000 ft^3/s, June 10, 11, 1903, gage height, 38.00 ft; maximum gage height, 43.23 ft, Apr. 28, 1973; minimum daily discharge, 18,000 ft^3/s, Dec. 21-23, 1863.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 27, 1844, reached a stage of 41.32 ft, from floodmarks, discharge, 1,300,000 ft^3/s, computed by U.S. Army Corps of Engineers. Flood in April 1785 may have reached a stage of 42.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 327,000 ft^3/s, Sept. 13, gage height, 19.87 ft; minimum discharge, 50,000 ft^3/s, Dec. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82200	73500	110000	99300	87400	73800	161000	136000	143000	112000	91200	145000
2	80100	65800	107000	98600	95600	73000	171000	130000	153000	112000	88400	176000
3	81300	69500	100000	95600	108000	74700	194000	127000	162000	102000	84400	162000
4	85300	73100	91100	83700	109000	80200	226000	127000	168000	102000	82600	143000
5	87000	74000	87300	87000	96700	86700	248000	132000	176000	101000	79800	145000
6	97300	72600	77400	106000	71200	81900	236000	129000	176000	99300	91200	132000
7	89500	71000	75700	119000	57100	79300	233000	121000	172000	95100	110000	119000
8	77200	78000	73000	113000	67600	85800	226000	121000	173000	88000	103000	114000
9	67900	76300	75100	95600	81500	97500	224000	124000	181000	82500	91100	152000
10	62500	87200	69700	81300	77900	93900	223000	127000	170000	83400	76200	202000
11	62600	80300	72600	71500	71000	103000	210000	124000	172000	83100	79400	251000
12	56200	78400	67900	73700	69400	118000	199000	119000	174000	81300	76300	312000
13	65600	86400	59100	87900	75500	131000	193000	115000	163000	81800	66100	326000
14	65600	87000	58600	84300	77500	140000	179000	113000	146000	86100	60000	310000
15	65400	92200	53700	82900	76600	140000	168000	112000	134000	87500	59700	265000
16	64900	102000	53800	85900	74900	153000	162000	110000	129000	76300	59800	230000
17	69000	91200	52000	81500	76700	184000	165000	107000	125000	64100	65600	204000
18	69900	85100	51400	76800	87800	187000	160000	101000	114000	65400	68500	182000
19	72800	89700	64800	73700	91300	159000	152000	104000	105000	65400	70900	157000
20	77300	105000	65600	77600	87400	168000	153000	111000	103000	75800	73100	145000
21	78700	111000	64600	71000	83500	189000	152000	105000	103000	88800	79600	149000
22	74500	111000	63900	65700	80900	183000	150000	105000	114000	98400	75700	145000
23	75500	108000	75300	67900	78000	173000	139000	110000	120000	96300	75700	139000
24	72400	108000	85800	68300	74600	160000	139000	111000	111000	100000	94000	131000
25	66400	108000	77900	66800	81300	143000	140000	114000	97900	98400	105000	132000
26	70100	105000	77700	73200	89700	127000	138000	130000	93700	96800	111000	118000
27	65000	102000	83300	79300	83500	118000	128000	142000	96100	97100	115000	110000
28	72600	99500	91000	80200	78100	119000	133000	137000	91000	88900	109000	101000
29	71400	101000	91900	83800	---	123000	145000	147000	88000	85400	111000	93200
30	73900	106000	113000	80600	---	146000	138000	155000	92700	90200	129000	89500
31	74200	---	109000	81600	---	169000	---	150000	---	93100	126000	---
TOTAL	2274300	2697800	2399200	2593300	2289700	3959800	5285000	3796000	4046400	2777500	2708900	5085700
MEAN	73360	89930	77390	83650	81770	127700	176200	122500	134900	89600	87380	169500
MAX	97300	111000	113000	119000	109000	189000	248000	155000	181000	112000	129000	326000
MIN	56200	65800	51400	65700	57100	73000	128000	101000	88000	64100	59700	89500

CAL YR 1988 TOTAL 43726500 MEAN 119500 MAX 311000 MIN 51400
WTR YR 1989 TOTAL 39913600 MEAN 109400 MAX 326000 MIN 51400

07020500 MISSISSIPPI RIVER AT CHESTER, IL

LOCATION.--Lat 37°54'10", long 89°51'10", in SW1/4 sec.24, T.7 S., R.7 W., third principal meridian, Randolph County, Hydrologic Unit 07140105, on downstream side of left pier of main truss of highway bridge at Chester, 8.1 mi downstream from Kaskaskia River, and at mile 109.9 above Ohio River.

DRAINAGE AREA.--708,600 mi^2, approximately.

PERIOD OF RECORD.--Discharge: October 1927 to current year in reports of Geological Survey. Monthly discharge only for some periods, published in WSP 1311. Since August 1873, results of discharge measurements in reports of Mississippi River Commission.

Gage heights: July 1942 to current year in reports of U.S. Geological Survey. Since May 1891, in reports of Mississippi River Commission and National Weather Service.

REVISED RECORDS.--WDR MO-76-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 341.05 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1962, nonrecording gage 0.4 mi downstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in the Missouri River basin. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.

AVERAGE DISCHARGE.--62 years, 187,000 ft^3/s, 135,500,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge determined, 886,000 ft^3/s, July 3, 1947, Apr. 30, 1973 (discharge including unmeasured overflow was greater May 24, 1943); maximum gage height, 43.32 ft, Apr. 30, 1973; minimum daily discharge, 30,000 ft^3/s Dec. 12, 1937.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1844, reached a stage of 39.8 ft and a discharge of 1,350,000 ft^3/s, computed by U.S. Army Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 330,000 ft^3/s, Sept. 14, gage height, 21.57 ft; minimum discharge, 53,200 ft^3/s, Dec. 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83800	74600	115000	117000	88000	83900	207000	142000	153000	101000	94900	128000
2	83800	73700	116000	110000	93300	79200	200000	138000	149000	114000	93200	157000
3	81400	67400	112000	108000	107000	77600	220000	134000	159000	113000	89400	174000
4	83100	71200	103000	106000	114000	79400	259000	130000	167000	106000	85800	165000
5	87000	78300	95900	97700	111000	85600	294000	131000	181000	105000	83500	151000
6	90600	75800	90300	117000	99100	90300	296000	133000	184000	103000	81700	143000
7	97400	74100	81700	137000	76300	86800	279000	128000	183000	101000	93700	130000
8	91600	73700	79100	143000	63600	84500	268000	122000	178000	96900	106000	119000
9	80600	78100	77400	133000	71100	92400	257000	123000	182000	90300	101000	118000
10	72100	79600	77200	115000	80000	101000	251000	127000	184000	85300	91200	159000
11	66600	87200	74400	98900	78600	108000	239000	130000	177000	85600	80300	206000
12	64500	83400	75300	87300	72400	120000	223000	129000	180000	84700	81000	264000
13	60200	85200	70900	87700	76200	136000	212000	125000	179000	84400	77500	312000
14	65700	87900	64300	96600	90500	154000	203000	122000	169000	84600	68900	327000
15	67100	90900	62500	94600	87900	157000	187000	121000	148000	88700	63100	301000
16	66500	99000	58500	92900	90300	157000	178000	120000	135000	88500	62100	261000
17	66000	105000	57400	93700	88300	177000	175000	117000	130000	79300	63200	231000
18	68700	96800	55400	89600	e89200	206000	176000	113000	122000	69200	66900	207000
19	70200	93900	55300	84500	e97100	199000	170000	108000	121000	68500	70200	183000
20	73600	105000	67000	82000	e100000	186000	161000	112000	108000	68700	72300	161000
21	78200	123000	69600	82600	e96200	227000	162000	114000	107000	80700	77500	152000
22	81300	125000	68500	76900	e92600	236000	161000	111000	107000	93[illegible]00	81500	152000
23	78300	126000	72700	71800	e89200	225000	156000	113000	116000	98300	78300	148000
24	79500	120000	83500	72700	e84400	209000	146000	114000	e121000	101000	80500	140000
25	75400	116000	91200	72800	82000	191000	145000	115000	e112000	102000	96900	135000
26	71800	116000	87300	74000	87700	168000	144000	121000	e105000	101000	106000	133000
27	72300	115000	87700	79500	93500	150000	139000	137000	e98600	99300	112000	120000
28	68600	111000	95400	85200	88900	137000	132000	146000	e101000	97500	115000	111000
29	73300	113000	100000	87900	---	137000	139000	148000	96900	91400	111000	103000
30	73400	115000	106000	89900	---	162000	148000	157000	93700	89400	116000	96800
31	74200	---	122000	87800	---	201000	---	162000	---	93000	129000	---
TOTAL	2346800	2860800	2572500	2972600	2488400	4503700	5927000	3943000	4247200	2864900	2729600	5187800
MEAN	75700	95360	82980	95890	88870	145300	197600	127200	141600	92420	88050	172900
MAX	97400	126000	122000	143000	114000	236000	296000	162000	184000	114000	129000	327000
MIN	60200	67400	55300	71800	63600	77600	132000	108000	93700	68500	62100	96800

CAL YR 1988 TOTAL 46627500 MEAN 127400 MAX 327000 MIN 55300
WTR YR 1989 TOTAL 42644300 MEAN 116800 MAX 327000 MIN 55300

e Estimated

07022000 MISSISSIPPI RIVER AT THEBES, IL

LOCATION.--Lat 37°13'00", long 89°27'50", in NW1/4 sec.17, T.15 S., R.3 W., Alexander County, Hydrologic Unit 07140105, near center span on downstream side of railroad bridge at Thebes, 5.0 mi downstream from Headwater Diversion Channel, and at mile 43.7 above Ohio River.
DRAINAGE AREA.--713,200 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Discharge: October 1932 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to April 1941, published as "at Cape Girardeau, Mo.".
Gage heights: March 1933 to Feburary 1938 and October 1939 to current year in reports of U.S. Geological Survey (prior to April 1941, published as "at Cape Girardeau, Mo."). Since November 1878, under name of "at Grays Point" in files of St. Louis District office of U.S. Army Corps of Engineers. January 1879 to May 1896, published as "at Grays Point" and since May 1896, published as "at Cape Girardeau" in reports of Mississippi River Commission. February 1891 to February 1894 and since 1904 published as "at Cape Girardeau" in reports of National Weather Service.
REVISED RECORDS.--WSP 1341: 1844(M). WDR MO-76-1: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above National Geodetic Vertical Datum of 1929. Mar. 17, 1933, to Dec. 21, 1934, nonrecording gage and Dec. 22, 1934, to Apr. 4, 1941, water-stage recorder, at site 8.2 mi upstream at datum 4.65 ft higher. Apr. 5, 1941, to Sept. 30, 1941, nonrecording gage at present site and datum and Oct. 1, 1941, to Oct. 11, 1943, at datum 0.07 ft higher. Prior to Apr. 5, 1941, various auxiliary gages used. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage.
REMARKS.--Water-discharge records good except those for estimated daily discharges, which are fair. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin. National Weather Service gage-height and U.S. Army Corps of Engineers satellite telemeters at station.
AVERAGE DISCHARGE.--57 years, 196,300 ft^3/s, 142,200,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 893,000 ft^3/s, May 27, 1943, elevation 340.33 ft, present datum; maximum elevation, 343.43 ft, Apr. 30, 1973; minimum discharge, 23,400 ft^3/s, Dec. 13, 1937, at site then in use.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 4, 1844, reached an elevation of 345.14 ft, present datum, at Grays Point, from floodmarks, discharge, 1,375,000 ft^3/s, computed by U.S. Army Corps of Engineers.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 330,000 ft^3/s, Sept. 14; maximum gage height, 27.27 ft, Apr. 6; minimum discharge, 57,400 ft^3/s, Dec. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90300	76700	124000	134000	84500	e95000	205000	150000	166000	97300	93800	129000
2	92900	76900	122000	128000	e88000	e90800	191000	147000	159000	105000	94900	135000
3	87900	75900	122000	118000	e113000	e85900	193000	145000	159000	115000	93300	165000
4	84300	72100	117000	115000	e118000	e81200	237000	142000	167000	116000	89300	173000
5	84900	77000	e106000	110000	e112000	e79100	272000	140000	177000	111000	86400	166000
6	87200	81100	e101000	111000	e110000	e76800	296000	143000	185000	107000	84500	155000
7	90600	79800	e94800	125000	e100000	e79500	295000	144000	184000	105000	84000	146000
8	94100	79300	e94800	e144000	e85400	e82200	289000	138000	182000	101000	95600	132000
9	87700	79300	e83400	e143000	e78000	e86600	280000	133000	179000	96100	104000	121000
10	78500	82100	e81900	e123000	e82700	e96700	272000	134000	183000	89400	99100	130000
11	71200	84200	e80200	e106000	e86100	e106000	264000	139000	180000	85300	89400	174000
12	66700	88500	e78400	e93000	e81900	e113000	253000	142000	185000	84600	81600	228000
13	63500	86000	e78800	e85900	e74500	e126000	242000	141000	187000	84300	81000	288000
14	61300	88300	e75600	e91000	e87900	e146000	236000	136000	187000	83600	77500	317000
15	64900	89500	e69200	e99300	e91800	e167000	225000	133000	173000	84500	70600	317000
16	66900	96700	e66400	e102000	e89900	e168000	210000	132000	155000	87700	66600	286000
17	66300	106000	e63700	e105000	e93100	e170000	197000	130000	145000	86600	65900	257000
18	67200	108000	e61900	e104000	e89100	e183000	189000	126000	140000	79700	66900	231000
19	68900	106000	e60100	e98900	e87600	e195000	181000	122000	136000	72400	69600	209000
20	70500	111000	e57600	e94800	e87200	e179000	171000	116000	132000	71300	72400	184000
21	74100	122000	68300	e90900	e87600	e184000	162000	118000	121000	73100	75000	168000
22	78000	136000	70300	e91300	e87600	e212000	162000	117000	122000	83500	79500	161000
23	80500	142000	70000	e92400	e92000	e216000	161000	115000	126000	94000	81100	158000
24	78700	142000	73900	e86900	e99200	207000	155000	116000	135000	98400	79500	152000
25	79800	137000	82500	e80300	e100000	195000	150000	117000	137000	101000	85300	143000
26	76200	134000	87800	77600	e98700	183000	149000	118000	128000	102000	98800	139000
27	74500	137000	87200	78400	e99300	168000	148000	127000	117000	100000	106000	133000
28	74700	132000	101000	80500	e98700	155000	141000	143000	115000	99400	112000	121000
29	72400	125000	110000	83700	---	148000	138000	149000	112000	96700	114000	113000
30	75400	124000	115000	85500	---	168000	145000	155000	103000	91500	112000	105000
31	75800	---	122000	86200	---	202000	---	164000	---	90700	119000	---
TOTAL	2385900	3075400	2726800	3164600	2603800	4444800	6209000	4172000	4577000	2893100	2728600	5336000
MEAN	76960	102500	87960	102100	92990	143400	207000	134600	152600	93330	88020	177900
MAX	94100	142000	124000	144000	118000	216000	296000	164000	187000	116000	119000	317000
MIN	61300	72100	57600	77600	74500	76800	138000	115000	103000	71300	65900	105000

CAL YR 1988	TOTAL 48370000	MEAN 132200	MAX 371000	MIN 57600
WTR YR 1989	TOTAL 44317000	MEAN 121400	MAX 317000	MIN 57600

e Estimated

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN DEMAND, CHEM-ICAL (LOW LEVEL) (MG/L) (00335)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT 24...	1255	81700	17002	74600	600	8.50	14.0	3.7	10.1	21	--	--
NOV 10...	1000	81700	17002	76100	645	8.40	11.5	8.5	10.9	19	5200	--
DEC 20...	1345	81700	17002	57700	567	8.30	4.5	13	14.5	16	--	--
JAN 19...	1315	81700	17002	96700	600	8.10	3.5	17	14.4	18	310	--
FEB 16...	1145	81700	17002	89900	418	8.20	3.0	43	13.8	25	540	--
MAR 29...	1230	81700	17002	147000	448	7.90	11.5	25	9.8	25	25	--
APR 25...	1330	81700	17002	151000	475	8.30	18.0	7.8	9.5	22	--	--
MAY 24...	1230	81700	17002	116000	538	8.30	22.5	5.1	8.8	21	2000	2000
JUN 21...	1330	81700	17002	120000	496	8.00	25.5	38	6.0	26	6900	6900
JUL 20...	0825	81700	17002	71400	594	8.10	23.5	19	6.6	22	--	1100
SEP 13...	1415	81700	17002	299000	470	8.00	24.0	200	5.2	42	12000	--

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB WH WAT TOT FLD MG/L AS CACO3 (00902)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA) (00916)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG) (00927)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA) (00929)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K) (00937)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)
OCT 24...	--	220	46	55	51	23	22	48	46	4.5	3.9
NOV 10...	--	240	69	57	55	24	24	53	54	4.4	4.4
DEC 20...	--	240	56	62	59	23	22	39	39	4.2	4.0
JAN 19...	310	210	46	50	49	20	20	37	38	2.6	2.5
FEB 16...	--	170	53	44	42	16	15	22	23	3.1	2.8
MAR 29...	25	180	46	46	44	17	16	23	23	5.3	4.7
APR 25...	--	180	42	46	44	17	17	27	27	4.8	4.4
MAY 24...	K20	190	39	51	49	17	16	35	34	3.9	4.2
JUN 21...	1000	190	61	49	46	19	17	30	29	5.5	5.2
JUL 20...	1300	220	64	56	54	21	20	48	48	4.6	4.9
SEP 13...	--	170	63	50	41	20	16	31	31	7.0	4.0

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	ALKALINITY LAB (MG/L AS CACO3) (90410)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, TOTAL (MG/L AS F) (00951)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	RESIDUE TOTAL AT 105 DEG. C, SUSPENDED (MG/L) (00530)	RESIDUE VOLATILE, SUSPENDED (MG/L) (00535)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	AMMONIA UN-IONIZED (MG/L AS N) (00619)	NITROGEN, ORGANIC TOTAL (MG/L AS N) (00605)
OCT											
24...	173	110	28	0.4	365	72	9	0.540	<0.100	<0.008	--
NOV											
10...	168	130	27	0.3	397	25	5	0.540	0.220	0.012	0.58
DEC											
20...	183	94	27	0.3	355	--	--	1.00	0.260	0.006	0.64
JAN											
19...	159	85	41	0.2	332	41	6	1.60	0.110	0.002	1.2
FEB											
16...	114	54	22	0.1	228	169	11	1.00	0.150	0.003	1.1
MAR											
29...	130	57	29	0.1	252	102	11	1.80	0.570	0.010	1.0
APR											
25...	138	75	22	0.2	273	99	13	1.80	0.160	0.011	1.0
MAY											
24...	150	92	23	0.3	309	55	8	0.860	0.190	--	0.96
JUN											
21...	124	83	20	0.2	275	206	20	4.00	<0.100	<0.006	--
JUL											
20...	154	120	24	0.3	367	88	13	5.70	0.230	0.015	1.2
SEP											
13...	106	84	20	0.3	260	812	56	1.00	0.110	0.006	1.4

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITROGEN, TOTAL (MG/L AS N) (00600)	PHOSPHOROUS TOTAL (MG/L AS P) (00665)	PHOSPHOROUS DISSOLVED (MG/L AS P) (00666)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)
OCT											
24...	1.7	2.2	0.220	0.080	1800	<50	3	100	73	<0.5	<0.5
NOV											
10...	0.80	1.3	0.190	0.120	590	--	3	90	74	<0.5	<0.5
DEC											
20...	1.1	2.1	0.130	0.070	1100	<50	3	100	76	<0.5	<0.5
JAN											
19...	1.3	2.9	0.180	0.050	630	<50	1	80	64	<0.5	<0.5
FEB											
16...	1.3	2.3	0.260	0.050	2800	60	2	90	49	<0.5	<0.5
MAR											
29...	1.6	3.4	0.270	0.100	2500	100	3	100	73	<0.5	<0.5
APR											
25...	1.2	3.0	0.210	0.080	1400	100	<1	90	68	<0.5	<0.5
MAY											
24...	1.2	2.0	0.170	0.080	1100	160	2	90	74	<0.5	<0.5
JUN											
21...	1.6	5.6	0.330	0.100	5100	290	3	100	77	<0.5	<0.5
JUL											
20...	1.4	7.1	0.220	0.130	2300	<50	3	100	95	<0.5	<0.5
SEP											
13...	1.5	2.5	0.470	0.090	15000	70	2	300	81	<2.0	<0.5

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO) (01037)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)
OCT 24...	90	80	<3	<3	<5	<5	<5	<5	12	<5	2400
NOV 10...	90	90	<3	<3	<5	<5	<5	<5	15	13	1200
DEC 20...	80	80	<3	<3	<5	<5	<5	<5	11	5	2200
JAN 19...	70	70	<3	<3	<5	<5	<5	<5	40	<5	1100
FEB 16...	50	<50	<3	<3	6	<5	<5	<5	26	9	4400
MAR 29...	50	<50	<3	<3	7	<5	<5	<5	11	6	3500
APR 25...	50	50	--	--	<5	<5	<5	<5	6	<5	2100
MAY 24...	80	70	<3	<3	<5	<5	<5	<5	16	6	1700
JUN 21...	80	70	<3	<3	11	8	<5	<5	17	9	7000
JUL 20...	100	100	<3	<3	<5	<5	<5	<5	8	6	2600
SEP 13...	90	70	<3	<3	17	<5	9	<5	32	<5	20000

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI) (01067)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR) (01082)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)
OCT 24...	<50	27	<5	220	<5	<5	<5	<3	<3.0	340	320
NOV 10...	110	10	<5	190	39	<5	<5	<3	<3.0	360	350
DEC 20...	<50	37	<5	160	29	7	<5	<3	<3.0	350	340
JAN 19...	<50	38	<5	77	9	<5	<5	<3	<3.0	260	260
FEB 16...	<50	22	<5	250	27	5	<5	<3	<3.0	180	170
MAR 29...	<50	39	<5	220	<5	10	6	<3	<3.0	190	180
APR 25...	<50	82	<5	210	<5	<5	<5	<3	<3.0	200	190
MAY 24...	<50	27	<5	180	<5	<5	<5	<3	<3.0	250	240
JUN 21...	<50	43	<5	360	<5	14	7	<3	<3.0	230	210
JUL 20...	<50	12	<5	230	<5	<5	<5	<3	<3.0	360	340
SEP 13...	<50	19	<5	960	<5	28	<5	<3	<3.0	290	250

07022000 MISSISSIPPI RIVER AT THEBES, IL--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989

DATE	VANADIUM, TOTAL (UG/L AS V) (01087)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CYANIDE TOTAL (MG/L AS CN) (00720)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L) (00556)	SEDIMENT, SUSPENDED (MG/L) (80154)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 24...	6	--	<100	<100	6.2	<0.005	<5	1	98	19700	48
NOV 10...	<5	<5	<50	<50	5.9	--	<5	<1	104	21400	50
DEC 20...	5	<5	<50	<50	5.5	<0.005	<5	1	--	--	--
JAN 19...	<5	<5	<100	<100	6.7	<0.005	<5	1	51	13300	61
FEB 16...	8	<5	<100	150	12	<0.005	<5	<1	318	77200	77
MAR 29...	7	<5	<50	<50	9.2	<0.005	<5	1	--	--	--
APR 25...	<5	<5	<50	<50	7.4	<0.005	<5	1	115	46900	48
MAY 24...	5	<5	<50	<50	7.2	<0.005	<5	2	--	--	--
JUN 21...	14	<5	<50	<50	10	0.005	10	--	--	--	--
JUL 20...	<5	<5	<100	<100	6.3	<0.005	<5	--	105	20200	76
SEP 13...	38	<5	<100	<100	12	--	<5	--	760	614000	76

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at miscellaneous sites are given in a separate table.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined. Datum of gage is in feet above National Geodetic Vertical Datum of 1929.

Annual maximum discharge at crest-stage partial-record stations during water year 1989

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		WABASH RIVER BASIN					
03344000	Embarras River near Diona, Ill.	Lat 39°20'40", long 88°10'15", in NW1/4 sec.2, T.10 N., R.9 E., Cumberland County, Hydrologic Unit 05120112, on right abutment at downstream side of Ryans Bridge, 2.8 mi southwest of Diona, 7 mi downstream from Indian Creek, 9 mi upstream from Hurricane Creek, and at mile 103.7. Datum of gage is 534.00 ft.	919	1939-40†, 1945-47†, 1971-82†, 1983-89	09-11-89	17.68	8,230
03344500	Range Creek near Casey, Ill.	Lat 39°19'36", long 88°01'46", in NE1/4SE1/4 sec.12, T.10 N., R.10 E., Cumberland County, Hydrologic Unit 05120112, on right wingwall at downstream side of county highway bridge, 2.5 mi west of State Highway 49, 3 mi northwest of Casey, and at mile 18.4. Datum of gage is 597.28 ft.	7.61	1951-82†, 1983-89	09-14-89	12.14	2,990
03378900	Little Wabash River at Louisville, Ill.	Lat 38°46'23", long 88°29'50", in NW1/4SE1/4 sec.23, T.4 N., R.6 E., Clay County, Hydrologic Unit 05120114, on right bank at city of Louisville pumphouse, 0.5 mi downstream from county highway bridge, 0.7 mi downstream from Panther Creek, and at mile 159.0. Datum of gage is 420.51 ft.	745	1966-82†, 1983-89	04-04-89	26.43	7,620
		BAY CREEK BASIN					
03385000	Hayes Creek at Glendale, Ill.	Lat 37°27'25", long 88°40'05", in SW1/4SW1/4 sec.21, T.12 S., R.5 E., Pope County, Hydrologic Unit 05140203, on left pier at downstream side of bridge on State Highway 145 in Glendale, 3.0 mi upstream from mouth and at mile 3.3. Datum of gage is 375.14 ft.	19.1	1950-75†, 1976-89	04-04-89	13.58	1,920

† Operated as a continuous-record gaging station.

Annual maximum discharge at crest-stage partial-record stations during water year 1989--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		ROCK RIVER BASIN					
05438250	Coon Creek at Riley, Ill.	Lat 42°10'58", long 88°38'28", in SE1/4SW1/4 sec.22, T.43 N., R.5 E., McHenry County, Hydrologic Unit 07090006, on left bank at downstream side of bridge on Riley-Harmony Road, 0.2 mi upstream from Interstate Highway 90, 0.8 mi southwest of Riley, and at mile 12.8. Datum of gage is 792.96 ft.	85.1	1962-82‡, 1983-89	08-05-89	6.45	850
05446000	Rock Creek at Morrison, Ill.	Lat 41°47'50", long 89°58'20", in NW1/4 sec.19, T.21 N., R.5 E., Whiteside County, Hydrologic Unit 07090005, on right bank at upstream side of bridge on Prairie Center Road in Morrison, 0.2 mi upstream from French Creek, 7.5 mi downstream from Little Rock Creek, and at mile 15.2. Datum of gage is 484.54 ft.	164	1940-58‡, 1959-71, 1978-86‡, 1987-89	09-07-89	16.06	2,270
		HENDERSON CREEK BASIN					
05468500	Cedar Creek at Little York, Ill.	Lat 41°00'50", long 90°44'45", between secs.20 and 21, T.12 N., R.3 W., Warren County, Hydrologic Unit 07080104, attached to downstream side of middle pier of bridge on State Highway 135 at north edge of Little York, 1.5 mi upstream from Davids Creek and 6.7 mi upstream from mouth. Datum of gage is 574.27 ft.	132	1941-71‡, 1972-89	--	<10.71	<694
		HADLEY CREEK BASIN					
05502020	Hadley Creek near Barry, Ill.	Lat 39°42'48", long 91°03'56", in SW1/4SW1/4 sec.14, T.4 S., R.6 W., Pike County, Hydrologic Unit 07110004, on upstream end of right pier of bridge on U.S. Highway 36, 1.8 mi northwest of Barry, 2.0 mi upstream from Beebe Creek, and at mile 13.4. Datum of gage is 533.59 ft.	40.9	1956-66‡, 1967-89	07-30-89	8.91	3,100
		KASKASKIA RIVER BASIN					
05593600	Blue Grass Creek near Raymond, Ill.	Lat 39°16'07", long 89°32'02", in NE1/4SE1/4 sec.33, T.10 N., R.4 W., Montgomery County, Hydrologic Unit 07140203, on right abutment at downstream side of county highway bridge, 0.8 mi east of State Highway 127, 4.0 mi southeast of Raymond, and at mile 2.9. Datum of gage is 598.08 ft.	17.3	1961-82‡, 1983-89	--	<10.21	<638
		CACHE RIVER BASIN					
05600000	Big Creek near Wetaug, Ill.	Lat 37°19'00", long 89°07'55", in SW1/4 sec.5, T.14 S., R.1 E., Pulaski County, Hydrologic Unit 07140108, on left bank 300 ft upstream from highway bridge, 1.0 mi upstream from Little Creek, 2.0 mi southwest of Wetaug, and at mile 2.4. Datum of gage is 336.86 ft.	32.2	1942-71‡, 1972-89	02-13-89	12.64	1,980

‡ Operated as a continuous-record gaging station.
< Less than.

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October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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